

Pertanika Journal of
**SOCIAL SCIENCES
& HUMANITIES**

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PERTANIKA JOURNAL OF SOCIAL SCIENCES & HUMANITIES

About the Journal

Overview

Pertanika Journal of Social Sciences & Humanities is the official journal of Universiti Putra Malaysia. It is an open-access online scientific journal. It publishes original scientific outputs. It neither accepts nor commissions third party content.

Recognised internationally as the leading peer-reviewed interdisciplinary journal devoted to the publication of original papers, it serves as a forum for practical approaches to improve quality in issues pertaining to social and behavioural sciences as well as the humanities.

Pertanika Journal of Social Science & Humanities is a **quarterly** (*March, June, September, and December*) periodical that considers for publication original articles as per its scope. The journal publishes in **English** as well as in **Bahasa Malaysia** and it is open for submission by authors from all over the world.

The journal is available world-wide.

Aims and scope

Pertanika Journal of Social Sciences & Humanities aims to develop as a pioneer journal for the social sciences with a focus on emerging issues pertaining to the social and behavioural sciences as well as the humanities. Areas relevant to the scope of the journal include Social Sciences—accounting, anthropology, archaeology and history, architecture and habitat, consumer and family economics, economics, education, finance, geography, law, management studies, media and communication studies, political sciences and public policy, population studies, psychology, sociology, technology management, and tourism; Humanities—arts and culture, dance, historical and civilisation studies, language and linguistics, literature, music, philosophy, religious studies, and sports.

History

Pertanika Journal of Social Sciences & Humanities was founded in 1993 and focuses on research in social and behavioural sciences as well as the humanities and its related fields.

Vision

To publish journal of international repute.

Mission

Our goal is to bring the highest quality research to the widest possible audience.

Quality

We aim for excellence, sustained by a responsible and professional approach to journal publishing. Submissions can expect to receive a decision within 120 days. The elapsed time from submission to publication for the articles averages 180 days. We are working towards decreasing the processing time with the help of our editors and the reviewers.

Abstracting and indexing of Pertanika

Pertanika Journal of Social Sciences & Humanities is now over 27 years old; this accumulated knowledge and experience has resulted the journal being abstracted and indexed in SCOPUS (Elsevier), Clarivate Web of Science (ESCI), EBSCO, DOAJ, Agricola, ASEAN CITATION INDEX, ISC, Microsoft Academic, Google Scholar, and MyCite.

Citing journal articles

The abbreviation for Pertanika Journal of Social Sciences & Humanities is *Pertanika J. Soc. Sci. & Hum.*

Publication policy

Pertanika policy prohibits an author from submitting the same manuscript for concurrent consideration by two or more publications. It prohibits as well publication of any manuscript that has already been published either in whole or substantial part elsewhere. It also does not permit publication of manuscript that has been published in full in proceedings.

Code of Ethics

The *Pertanika* journals and Universiti Putra Malaysia take seriously the responsibility of all of its journal publications to reflect the highest publication ethics. Thus, all journals and journal editors are expected to abide by the journal's codes of ethics. Refer to *Pertanika's Code of Ethics* for full details, or visit the journal's web link at: http://www.pertanika.upm.edu.my/code_of_ethics.php

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International Standard Serial Number (ISSN)

An ISSN is an 8-digit code used to identify periodicals such as journals of all kinds and on all media—print and electronic.

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Authorship

Authors are not permitted to add or remove any names from the authorship provided at the time of initial submission without the consent of the journal's Chief Executive Editor.

Manuscript preparation

Most scientific papers are prepared according to a format called IMRAD. The term represents the first letters of the words *Introduction, Materials and Methods, Results, And Discussion*. IMRAD is simply a more 'defined' version of the "IBC" (*Introduction, Body, Conclusion*) format used for all academic writing. IMRAD indicates a pattern or format rather than a complete list of headings or components of research papers; the missing parts of a paper are: *Title, Authors, Keywords, Abstract, Conclusions, References, and Acknowledgement*. Additionally, some papers include *Appendices*. For manuscripts in **Bahasa Malaysia**, the title, abstract and keywords should be written in both **English** and **Bahasa Malaysia**.

The *Introduction* explains the scope and objective of the study in the light of current knowledge on the subject; the *Materials and Methods* describes how the study was conducted; the *Results* section reports what was found in the study; and the *Discussion* section explains meaning and significance of the results and provides suggestions for future directions of research. The manuscript must be prepared according to the journal's **Instruction to Authors** (http://www.pertanika.upm.edu.my/Resources/regular_issues/Regular_Issues_Instructions_to_Authors.pdf).

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Authors who complete any submission are notified with an acknowledgement containing a manuscript ID on receipt of a manuscript, and upon the editorial decision regarding publication.

Pertanika follows a **double-blind peer -review process**. Manuscripts deemed suitable for publication are sent to reviewers. Authors are encouraged to suggest names of at least 3 potential reviewers at the time of submission of their manuscripts to *Pertanika*, but the editors will make the final selection and are not, however, bound by these suggestions.

Notification of the editorial decision is usually provided within 120 days from the receipt of manuscript. Publication of solicited manuscripts is not guaranteed. In most cases, manuscripts are accepted conditionally, pending an author's revision of the material.

As articles are double-blind reviewed, material that may identify authorship of the paper should be placed only on page 2 as described in the first-4-page format in *Pertanika*'s Instruction to Authors (http://www.pertanika.upm.edu.my/Resources/regular_issues/Regular_Issues_Instructions_to_Authors.pdf).

The journal's peer review

In the peer review process, 2 or 3 referees independently evaluate the scientific quality of the submitted manuscripts. At least 2 referee reports are required to help make a decision.

Peer reviewers are experts chosen by journal editors to provide written assessment of the **strengths** and **weaknesses** of written research, with the aim of improving the reporting of research and identifying the most appropriate and highest quality material for the journal.

Operating and review process

What happens to a manuscript once it is submitted to *Pertanika*? Typically, there are 7 steps to the editorial review process:

1. The journal's Chief Executive Editor and the Editor-in-Chief examine the paper to determine whether it is relevance to journal needs in terms of novelty, impact, design, procedure, language as well as presentation and allow it to proceed to the reviewing process. If not appropriate, the manuscript is rejected outright and the author is informed.
2. The Chief Executive Editor sends the article-identifying information having been removed, to 2 to 3 reviewers. They are specialists in the subject matter of the article. The Chief Executive Editor requests that they complete the review within 3 weeks.

Comments to authors are about the appropriateness and adequacy of the theoretical or conceptual framework, literature review, method, results and discussion, and conclusions. Reviewers often include suggestions for strengthening of the manuscript. Comments to the editor are in the nature of the significance of the work and its potential contribution to the research field.

3. The Editor-in-Chief examines the review reports and decides whether to accept or reject the manuscript, invite the authors to revise and resubmit the manuscript, or seek additional review reports. In rare instances, the manuscript is accepted with almost no revision. Almost

without exception, reviewers' comments (to the authors) are forwarded to the authors. If a revision is indicated, the editor provides guidelines to the authors for attending to the reviewers' suggestions and perhaps additional advice about revising the manuscript.

4. The authors decide whether and how to address the reviewers' comments and criticisms and the editor's concerns. The authors return a revised version of the paper to the Chief Executive Editor along with specific information describing how they have addressed the concerns of the reviewers and the editor, usually in a tabular form. The authors may also submit a rebuttal if there is a need especially when the authors disagree with certain comments provided by reviewers.
5. The Chief Executive Editor sends the revised manuscript out for re-review. Typically, at least 1 of the original reviewers will be asked to examine the article.
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9. The editorial office ensures that the manuscript adheres to the correct style (in-text citations, the reference list, and tables are typical areas of concern, clarity, and grammar). The authors are asked to respond to any minor queries by the editorial office. Following these corrections, page proofs are mailed to the corresponding authors for their final approval. At this point, **only essential changes are accepted**. Finally, the manuscript appears in the pages of the journal and is posted on-line.



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Foreword

Welcome to the fourth issue of 2022 for the *Pertanika Journal of Social Sciences and Humanities (PJSSH)*!

PJSSH is an open-access journal for studies in Social Sciences and Humanities published by Universiti Putra Malaysia Press. It is independently owned and managed by the university for the benefit of the world-wide science community.

This issue contains 29 articles: a review article; a case study; a short communication; and the rest are regular articles. The authors of these articles come from different countries namely Chile, China, India, Indonesia, Jordan, Kazakhstan, Malaysia, Nigeria, Pakistan, Palestine, Philippines, Qatar, Thailand, United Arab Emirates and United State of America.

A selected article from the scope of population studies, titled “Supporting the Elderly: The “Kenang Budi” Concept within the Malay Society in Malaysia” examines the types of support given by the children in the practice of the “kenang budi” (literally, in English, grateful) concept by analyzing the data gathered from 327 elderly in Pahang, Malaysia. This article highlights the element of “kenang budi” in the Malay community, especially in the context of doing a good or responsible attitude towards elderly parents, similar to the concept of filial piety practiced in Chinese society in Southeast Asia. Details of this study are available on page 1881.

A regular article titled “Materialism and Big-Five Personality Traits Shaping Low-Income University Students’ Compulsive Online-Buying Behavior” sought to investigate the influence of materialistic behavior and the Big-Five personality traits on the compulsive online-buying behavior of university students from low-income families. This study shows materialism, neuroticism, and extraversion exhibited a direct positive influence on the compulsive online-buying behavior of the students. The detailed information of this article is presented on page 1931.

María Jesús Rosado-García and colleagues provide a critical revision of the development of painting art and the engineering of bridges in the first half of the 20th century, in their article entitled “The Artistic Vanguard and the Bridges: Innovation and Transversality of Engineering and Other Arts”. The study shows that The transversality of art and engineering is key to the innovation process. Further details of the study can be found on page 2037.

In the last 12 months, of all the manuscripts peer-reviewed, 15% were accepted. This seems to be the trend in PJSSH.

We anticipate that you will find the evidence presented in this issue to be intriguing, thought-provoking and useful in reaching new milestones in your own research. Please recommend the journal to your colleagues and students to make this endeavour meaningful.

All the papers published in this edition underwent Pertanika's stringent peer-review process involving a minimum of two reviewers comprising internal as well as external referees. This was to ensure that the quality of the papers justified the high ranking of the journal, which is renowned as a heavily-cited journal not only by authors and researchers in Malaysia but by those in other countries around the world as well.

We would also like to express our gratitude to all the contributors, namely the authors, reviewers, Editor-in-Chief and Editorial Board Members of PJSSH, who have made this issue possible.

PJSSH is currently accepting manuscripts for upcoming issues based on original qualitative or quantitative research that opens new areas of inquiry and investigation.

Chief Executive Editor

Prof. Ir. Dr. Mohd Sapuan Salit

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Factors Affecting Artificial Intelligence and Management of Institutional Response to the Event of Coronavirus in Pakistan

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ABSTRACT

With millions of people segregating around the globe, Coronavirus stands truly a global event. It ranges to the trajectories of states with miserable and wrecked health care systems. The transmission is aided by the wide-ranging response from the policy planning and state organizations. Experts are aware of the sternness and contamination of the infectious disease and its disastrous consequences that desire for inoculation of Artificial Intelligence (AI). The absence of an AI policy rejoinder may lead to increased fatalities for weathering the storm. Despite the wide range of responses, the up-to-date policy needs an organized way to track the inflexibility of state-run organizations' frameworks to attain the objectives of AI organizational policy response. The study's objectives include including key national institutions to understand perceptions and motivations to challenge the event of COVID-19 through common grounds of Artificial Intelligence. The data is obtained through an online survey from the foreign office, health care services, inter-coordination ministries,

and science and technology ministry. The paper has unfolded the useless directions, impractical steps, uncertainty, ineffective communication, and social protection, which led to the rapid spread of infection. Refining each health indicator and reducing the progression of the pandemic through the AI archetype is conceivable only when officialdoms employ the AI-based approach.

Keywords: Coronavirus, management, organization, policy

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INTRODUCTION

In December 2019, an infectious disease, Coronavirus, was caused by a new virus that shocked the world in a few minutes, days, and months. The disease led to respiratory symptoms of illness with trouble breathing (X. Wang et al., 2020). The intervention suggested by the social and medical scientists includes social distancing, cleanliness, washing hands, and minimum level of interaction of body parts with the face (Zhu et al., 2020). As an infected person or individual sneezes/coughs, it spreads the virus while contacting other human community members. Even the surface of the object with the infectious virus may spread for the individual to touch or interact with (Guan et al., 2020). The most qualified resolution against the virus is to reduce social meetings at the individual, official, or community level. It resulted in the imposition of 'lockdown' in most regions across the globe (Huang et al., 2020). It has become a preferred practice for people to remain distant.

The activation of the virus is a bigger challenge for communities worldwide. Those trying to respond under the prescribed direction failed to justify their intervention. The struggle for intervention is still in the process of development (Holshue et al., 2020). However, the important aspect as unfolded through this virus is the serious flaw in institutional capacity and policy response of the state-to-state organizations like foreign offices, health, and education (Perlman, 2020; D. Wang et al., 2020). Instead of blending this

phenomenon, a matter of geo-political or a tool of international politics, the global and state external affairs departments should have taken certain emergency measures. It reflects the non-serious attitude of leading powers and states like Italy, the United States, and the United Kingdom (Wu et al., 2020). At the same time, the infectious disease extended the need for effective organizational change and policy response, which seems nowhere in the recent crises.

The same is the case for developing countries where states like Pakistan are at high risk of not following precautionary measures. The Ministry of Foreign Affairs (MOFA) is the primary agency in tackling external affairs, and its response requires a comprehensive review (Chung et al., 2020). Institutional change, as underlined, is a path-dependent phenomenon that is a process of comprehending the policy according to the situation at hand (Phan et al., 2020; Sparrow, 2020). The 'Joint Humanitarian-COVID-19 Framework' approach is applied in the context of impending the issue of COVID-19. The staffs of MOFA in various categories like delegations, headquarters, and appointed officials at embassies of member states, are part of the process (World Health Organization, 2019). Further, inclusive coordination with international organizations like World Health Organization (WHO) and attached humanitarian agencies is the prerogative of Pakistan's foreign policy. The most important aspect of this framework is the inclusion of national counterparts (key national institutions) to understand

each other’s perceptions, objectives, and motivations for action through common ground (Dareini, 2020).

LITERATURE REVIEW AND HYPOTHESIS DEVELOPMENT

The specific tools are meant for individual and organizational change (Karabag, 2020). It is followed by a strategy where concepts and methods are implied to achieve objectives (Richards, 2019). Memes are a significant aspect of self-replication for fulfilling foundational change as it enhances the organization’s health. The emergence of crises COVID-19 triggers institutional change for state-oriented organizations like MOFA.

Causal Layered Analysis

Management of the institutional response is reflected using layered causal analysis (CLA). The analysis tools used in this study are formulated by Inayatullah (1998) for application during issues of pandemics and disasters of similar nature. Scholars and authors have used the issue under pandemic conditions where the processes of communication among key stakeholders amalgamated to resolve the crisis of the pandemic at hand. In Figure 1, four phases and layers of the analysis are incorporated as the change occurs in institutional mechanisms to respond to the pandemic disaster (Farrow, 2019; Scheele et al., 2018). The edging of problems is interlinked with the indicators of analysis that include metaphor, worldview, system, and litany (Horne & Boland, 2020).

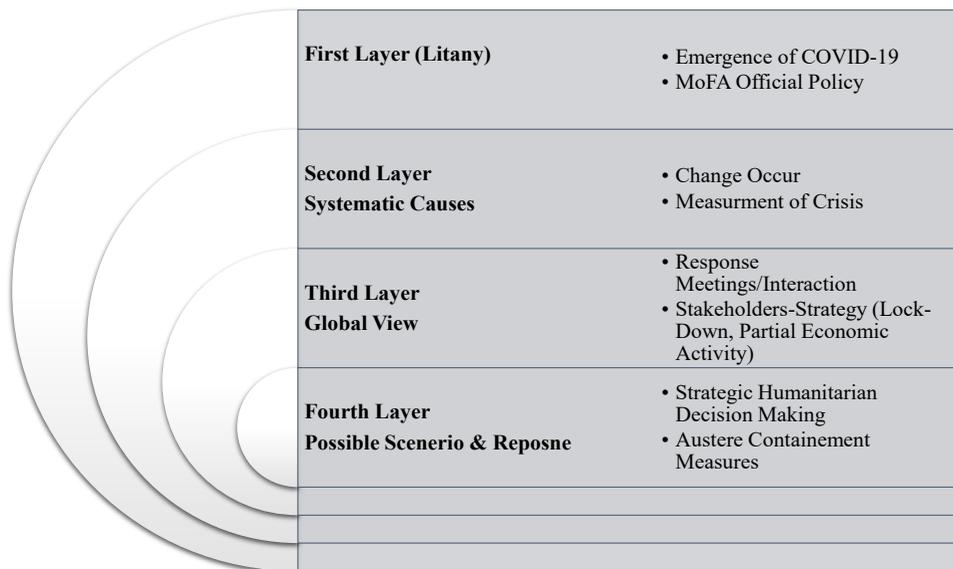


Figure 1. Government policy responses in the context of institutional change through causal layered model
Source: Farrow (2019)

JOINT HUMANITARIAN COVID-19 DEVELOPMENT

Pakistan needs a traditional humanitarian response. The National Disaster Management Authority (NDMA), which provides services including the humanities and development programs, is assigned to key government

units. Food is an intersecting issue, and altitude is one of the key indicators of COVID-19 monitoring in Figure 2 (Henökl & Webersik, 2014). The mandate to develop, plan and coordinate health policy within the government belongs to the Department of Nutrition of the Ministry of Health.

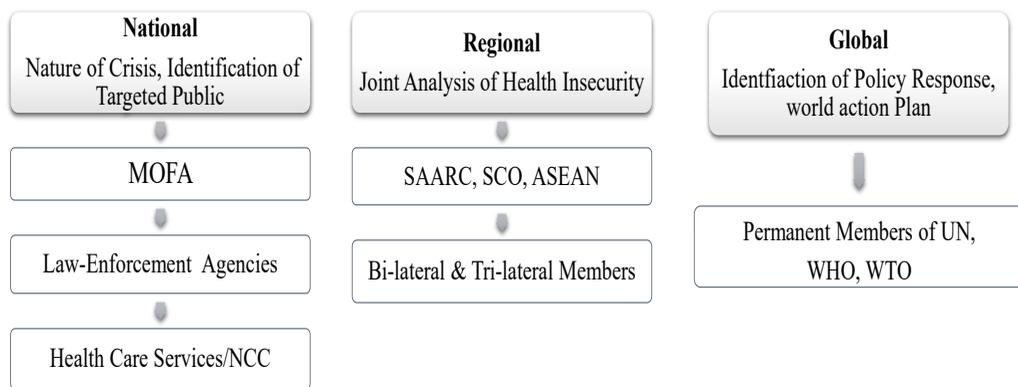


Figure 2. Joint Humanitarian COVID-19 Development Framework

Source: Henökl and Webersik (2014)

CONCEPTUAL FRAMEWORK

The institutional change is the key development in Coronavirus's recent challenge, which implies the actions considered for immediate purposes. Ministry of Foreign Affairs (MOFA) having standard interaction with world communities through the department concerned is eventful to crisis management of COVID-19 (Salehi et al., 2020). This cell is to facilitate the Pakistani diaspora abroad and update the system in measurements taken to combat the virus. However, the challenge of the global

pandemic is accelerating, and the demand for addressing the key institutional changes is in cooperation with the staff and senior management (Chen et al., 2020).

The culture, beliefs, values, and social norms may decrease the change process, but it needs to be understood effectively. The classification of institutional change is based on the small- and large-scale interventions. In Figure 3, the Causal Layered Analysis (Social Science Method) of the COVID-19 crisis reflects that policymakers are playing their part in decreasing the acceleration of

the virus (Farrow, 2019; Haigh, 2016; Osa & Hanatani, 2018; Richards, 2019).

The crisis reflects that organized nations are easily overcome because of the quality education departed to the people at lower and higher levels (Chohan, 2020). Despite the dreary response of the Pakistani nation, certain measures on behalf of the Ministry of Foreign Affairs are to be part of reducing the tension and fear in the citizen's minds. It proposes as follows:

H1: Faster Change in the institution substantially influences social and biotic crises.

Here it requires the training and updating of the staff of MOFA to be ready to interact/support patients and people of the Pakistani diaspora abroad (Khan et al., 2020). The information and necessary data must be passed to the concerned organizations dealing with the post-COVID-19 scenario, both socially and economically. A comprehensive framework and action plan should be prepared in line with the inclusive approach and input of key stakeholders like health services, law

enforcement agencies, and national food and security (Sohrabi et al., 2020). Hence the literature illustrates that:

H2: The response of government and intra-organizations illustrate major changes that require the upgradation of staff.

Border management remains the weak and confused area during the recently developed crisis of COVID-19, which needs to be reviewed comprehensively in consultation with the country's top management. Foreign travelers should be banned from entering a country, or they can be settled around borders in quarantines. The shared experience among the developing and developed states is the need of the hour. MOFA can facilitate the digital response by inviting nations to participate in a video international conference. The complete implementation of pre-cautionary directives considering the response to COVID-19 is significant (Eurosurveillance Editorial Team, 2020). It provides:

H3: The cross-border infectious movement of individuals from one country to another reflects weak management.

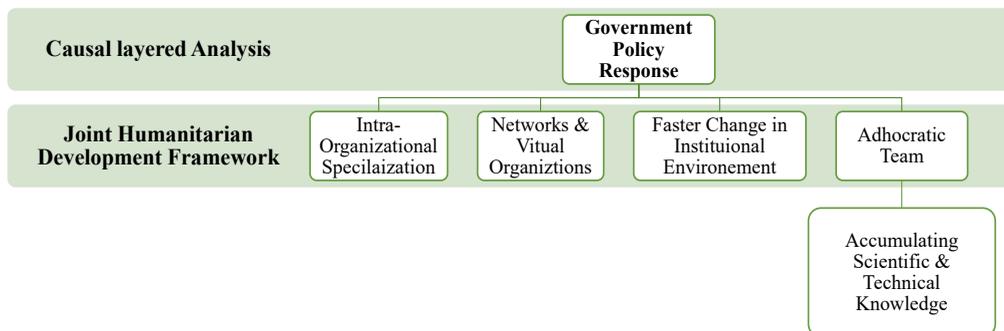


Figure 3. Conceptual framework/institutional change

Source: Farrow (2019); Henökl and Webersik (2014)

GOVERNMENT POLICY RESPONSES

The response to the COVID-19 Coronavirus that affects much of Pakistan, particularly the liberated areas of the region, was described as short-lived, well-organized, and a small investment by the Prime Minister (Agha, 2019). The government is paying little attention to building resilience to drought and high child malnutrition and mortality levels. Further, the virus started earlier and was a more appropriate time; the current situation has seen high levels of acute global famine. It is possible to do with lower levels of severe acute impacts of Coronavirus, and these are due to the scale-up of the integrated management of institutional change (Anderson, 2019).

Accumulating Scientific and Technical Knowledge

Organizational change refers to activities used to promote civic engagement, public service development, and public dialogue. Various attributes are significant in attaining knowledge through evaluation, a delegation of powers, up-gradation, monitoring, and training (Bastian et al., 2019; Salmi & Mattelmäki, 2021). Reviewing the available literature supports organizational change through knowledge management and information (Bastian et al., 2019). In addition, the organization of scientific media can measure service delivery performance, such as usability, interaction, and the ability to adapt to change.

Intra-Organizational Specialization

Intra-organizational specialization enhances cooperation and coordination among key stakeholders of the state. For example, those fighting and combating the virus COVID 19 must have increased interaction in meeting for a comprehensive response (Boodhna et al., 2019). Similarly, the norms and values pursue the conventions that are the basis for arranging healthy relationships among networks, corporate hierarchies, associations, and communications in the worst crisis setting (Buchanan & Badham, 2020).

Networks and Virtual Organization

The classifications of service quality for the effective services of virtual and network organizations are significant during times of crisis. The quality of a virtual organization is based on the available instruments and viable performance of accepting public services associated with changes. Over time, modifications in the virtual program installation provide a better outcome to maintain social distancing and relevant actions (Salmi & Mattelmäki, 2021). Management of measures leads to achieving effective results and meeting the demands of the public that influences them (Cameron & Green, 2019). More use of the networks intensified the redesigning of operations that can influence the concerned state operations in combating Coronavirus (Chung et al., 2020).

Faster Change in Institutional Environment

The procedures in the organizational environment segments imply that faster change in the institution's environment may not bring immediate results. It is due to weak interactions among state departments where the government takes place in the presence of a design plan and an identity that determines the quality assessment of the various organizations (Farrow, 2019). Some studies provided empirical evidence for the institution's pivotal role during the occurrence of faster change in the atmosphere of organizations (Farah et al., 2019).

Adhocratic Team

The government response through the adhocratic team refers to the implication of a new tool in the current problem of Coronavirus (Steyaert et al., 2020). It implies the effectiveness of individuals in the organizations and their responsive role in allocated teams. Various options like the presentation of strategic, ideological, and stewardship components in the institutional teams affect the performance in times of health crisis (Grein et al., 2020). However, it is hard for us to straight degree the problems and remains consistent with an adhocratic team service-dominated response. At the same time, democracy is the provision of allowing team members to speak and remain open with each other (He et al., 2020). Inclusiveness is an indispensable part of response measures during organizational change.

METHODOLOGY

The Causal layered analysis and the Joint Humanitarian Development Framework presented in this article describe a situation where analysis is used as a methodological framework. It is a method developed by Inayatullah (1998), which many future investigators and practitioners later used to tackle the issues and challenges of problems similar to the pandemic. The fundamental supposition is the preparation of issues that regulate the systematic resolution of political decisions (Horne & Boland, 2020).

To this end, the future representatives are divided into four categories: prayer, judgment, worldly thinking, and metaphor. These layers represent a wide variety of situations. Litany, for example, presents a wide range of issues but is frequently overstated and cast off for dogmatic resolutions. The second classification emphasizes interpreting research on the relationship between multiple data and communication (Lurie et al., 2020). Although related to the university level of morphological analysis, it was related to the ideology of the world and the ideology of the world that support or challenge the elite. Likewise, metaphor is a field of myths in which we work with in-depth stories and composite archaeological images that give meaning to unrelated events. Finally, laws are intertwined, both in the short and long term.

Further, the Joint Humanitarian Development Framework is a humanitarian program that takes place in protracted emergencies like an emergency of viruses,

where short-term humanitarian programming is inappropriate (Medinilla et al., 2019). In recognition of this health improvement, the United Nations Office for the Coordination of Humanitarian Affairs has established four principles: the study of urgent and long-term needs; Involvement of people in work and partner development with positive outcomes; Establish collaborations and interactions, comparisons and benefits (Tosi et al., 2019a).

It also includes funding methods to support common outcomes. Here, the organization is shifting its agenda from short-term emergency response plans to a national policy model with a long-term funding window of three to five years (Minkkinen et al., 2019). The inclusion of programs helps to reduce the virus as a guaranteed goal. It focuses on an integrated programming model that promotes integration between sectors and long-term state and civil society structures. Finally, nexus aims to capture the coming years' human development and related experiences and to share examples of what works for the human purpose (Tosi et al., 2019b).

Survey Instrument

This article provides answers and tangible outcomes to achieve the goals of a good research tool (Leggett, 2017). It was advanced in dissimilar groups and supplementary collections. The first classification is preferred because of the inclusion of accumulated scientific and technological knowledge in the process of institutional change. Group B interviews

were conducted for answers to organizational characteristics. The answers to Group C questions were about real changes and rapid changes that close the dependence of two network channels and affect the organizational environment.

In addition, the adhocratic is called upon to find a role that can play in emergencies and organizational changes. The tool has several questions to determine, and the following metrics include query design-based construction. By determining the content of the research and reflecting on it in question, the meaningful content of the specialization is addressed in the unit with an acceptable level of validity and credibility for the main characters. It combines the flow of information from general issues to specific issues with identification.

Survey Questionnaire

Reinforced by Artino et al. (2014), the study used several questions on the Likert scale to answer one of the options. There was a choice from the most dissatisfied to the most dissatisfied respondents. The survey questionnaire (given in Appendix 1) included three main variables (rapid change, which the management agencies of certain agencies manage), along with other variables. Most respondents have experience of 25–50 years and 10–15 years of applicable organizational understanding. The participants are chosen based on their age, education, and experience in selected groups to learn responses to government policy. It is also analyzed to investigate the correlation of relief activities related to the research topic.

Sample Profile and Data Collection

The data collection methodology for this study includes questions about inter-organizational specialization, both for network and virtual change, affecting the interconnection and rapid change in the organization environment (Nacoti et al., 2020). In addition, the advocacy team has been mentioned to play a role in crises and organizational change based on the nature of organizational change.

The purpose and questions were addressed in response to the crisis of the COVID-19 crisis. The main points of the data were determined according to the method of asking questions (Hall & Wall, 2019). It is planned with the contribution of investors, exchange agencies, and government responses.

Participants were selected to have information on organizational progress and management of branches (Aykroyd et al., 2019). The questions were divided into 245 respondents, to whom 180 multiple-choice answers were obtained. Table 3 indicates 50 from the Ministry of Foreign Affairs, 30 from the Joint Working Group, and 40 from the Ministry of National Health Services and Rights (Table 1). In addition, the sample change (30.30) about organizational change was secured from two social groups belonging to the COVID-19 support management system, and a question-and-answer session was conducted. Employees are non-confidential and do not disclose their identities. The National Intelligence Service also participated in the investigation.

Table 1

The procedure of data collection and sample

The procedure of data collection	Sample
Survey	Officers from Foreign Office Inter-departmental Coordination Ministry of National Health and Regulation Services Welfare organizations of Relief and Execution

Statistical Analysis and Measurement

The following analysis tools provide accurate and compelling results based on the answers and goals to analyze the data and get results. It includes the frequency of each variable, Pearson's correlation matrix, and Cronbach's alpha reliability analysis. The procedure for analyzing the government's

policy response to the fight against the coronary virus is based on the original data. Following the information gathered from the questionnaire, the content, story, and discourse are analyzed by interpretation. The SPSS software is used to perform the analysis (William & Wagner, 2019). In addition, the data is also analyzed through

news data. Observation means exploring the relationship between these differences and predicting the occurrence of differences (Bhatia, 2019).

Ethical Consideration

Ethical consideration is a moral tool that strives for the management of areas where the conduct of an individual is assessed based on the participants' responses. For this reason, various stakeholders are aligned with the process and management of codes that work on the participant to convince them to respond helpfully. The information of the participants is in line with the maintenance, and following the privacy rules provided a clear understanding of the respondents' intentions to overcome the crisis (Ndlela, 2019). Informed convincing for the participant is connected to the inclusion of stakeholders that participated through the researcher to respond to the query on the crisis of pandemic and organizational response (Biswakarma, 2021). A proper channel method is used in approaching the concerned participant to meet the procedural justice of organizational change (Zankl, 2014). The organization is approached for the facilitation, and questions divided according to variables are shared with the concerned individual to respond to the

queries of the study. A consistent flow of information between the respondent and researcher maintains a viable position of neutrality in the study. Similarly, there is strict follow-up regarding strategy use in research by negating the potential bias and evaluation of the results.

RESULTS AND INTERPRETATION

Respondent Characteristics and Profile

The results and interpretation (Table 2) reflect that participant is involved in this research with 30 females and 150 males that strike for the percentage of 22.22 and 77.77. The age ratio is determined from 45–75, where the division of categories follows the total population costing 60% of the total participant. Providing to this, the professionals and people relevant to the understanding of managing the organizations relate to experience from 4–6 years with a 50% response rate. The experience of the remaining respondents is connected and compared to specific years from 4–12 years are included to strengthen research outcomes. It shows that people have increased knowledge, and age is significant for managing the organizational alter in the policy response to the crisis of COVID-19 in Pakistan.

Table 2

Profile of demography

Features	Frequency N=200	Percentage %
Male	150	77.77
Female	50	22.22

Table 2 (Continue)

Features	Frequency N=200	Percentage %
Age		
30-35	75	37.5
35-40	50	25
40-50	75	37.5
Distribution		
MOFA	50	27.77
Inter-Departmental Coordination	30	16.66
Health Services and Regulations	40	22.2
Officials of Welfare Organization	30	16.66
Relief Organization	30	16.66
Total	180	100%

Cronbach's Alpha Reliability Test

For the reliability of research, Cronbach Alpha is directed to authorize the ideas contributive to this research. In their research, Bonett and Wright (2015) viewed that Cronbach alpha is the most widely used measure for reliability in the organizational and social sciences. With a confidence interval of population reliability, there is a restrictive assumption that multiple measurements have certain covariance and variance (Read et al., 2021). The reliability and validity of the study model

are reinforced by the detail of the reliability test performed by sociologists. It should be better than 0.7. Table 3 for each variable and number of matters covers values greater than 0.7. It goes up to 0.8, which confirms the reliability and validity of the model.

The constructs as measured in the reflect the reliability against each item. For example, emotional contagion 0.810 is more reliable than the remaining variables. Other cognition, both affective and effective, contributes to image development as a significant tool to attract their attention.

Table 3

Reliability test

Variables	Number of Items	Cronbach's Alpha
Accumulating	6	0.701
Knowledge	7	0.788
Intra-Organizational	5	0.810
Spec	6	0.731
Networks and Virtual	7	0.751
Department		
Faster Change		
Adhocratic Team		

Pearson Correlation and Descriptive Analysis

Zhou et al. (2016) reflect Pearson correlation as an effective tool for analyzing data and systems of interpretation in the research. Pearson’s correlation is applied (Table 4) to know the relationships between variables where emotional understanding is positively correlated with all experiments/constructions aimed at a softer image (Förster et al., 2018). However, organizational change is negative because structure and organization of ideology are negatively associated with expertise related to crisis management. A similar relationship between specializations within an organization indicates gradual development.

The same is true for those differences that affect networks and virtual planning roles that require major change. Other structures or variables remain positive for organizational change, such as democratic

teams. H1 and H2 are some relationships and statements, while H3 has strong support.

The knowledge is positively associated with policy response regarding combating the crisis as the value contains 0.0421. Similarly, intra-organizational specialization remains positive in reflecting the state policy response with a value of 0.2304. However, faster change seems negative -0.0641 because less attention is given to the overall organizational change and effective management. The perception developed in the mind of tourists is through the changing environment of facilities, behavior, and responsible role of concerned institutions. The adhocratic team management and the nature of response are interlinked and connected as the value shown in Table 4 is 0.0684. This positive association entails that effective policy response is the ultimate reflection of the state to consider these measures.

Table 4
Pearson correlation analysis

Description	Mean	S. D	1	2	3	4	5	6
Govt Policy Response	4.27	1.53	1					
Accumulating Knowledge	3.40	1.32	0.033	1				
Intra-Organizational Spec	3.31	1.64	0.042	0.039	1			
Networks and Virtual Deptt	5.32	1.09	0.040	0.230	0.041	1		
Faster Change	4.01	1.41	0.079	-0.064	0.321	0.040	1	
Adhocratic Team	3.71	1.83	0.0393	0.079	0.064	0.068	0.079	1

DISCUSSION

To investigate the interrelationship between government and the organization like MOFA, the organizational change and perceived value influence both teams and the state. While reusing purpose, this research advances a CLA and Joint Humanitarian Approach model to reflect the -management facility, excellence, and continuous use of administration in re-joining the crisis of COVID-19 (Reddy et al., 2019). This approach aims to deliver these tactics and participate in some management facility that evaluates the representation in the setting of organizational alteration. Using data collected from a survey from different state-owned enterprises, the users responded to direct-controlled services and the response of the major population in Pakistan (Reeves et al., 2020). During the research, it is verified that the determinative structure of government and concerned stakeholders can be influenced by organizational change and various tests proposed concepts for effective policy responses. The structural equation and the following observations are significant in overcoming the crisis of COVID-19.

Further, the research also examines the constructs of government and valuable indicators like intra-organizational specialization, adhocracy teams, faster change networks, and virtual administrations. The most important is the accumulation of knowledge. Managing the quality of information or knowledge and acceptance is a key factor in response to the important workplace. The first part of the series

shows the technical performance of the government service, offering only a small part of the flight frequency of only about 0.1. Advances in technology are essential because they can solve inaccessibility, system insecurity, and insecurity. However, most of the portals opened by the Pakistani government are functioning normally. As a result, technology-savvy citizens tend to adopt system-quality and reliable operations to meet their needs through government subsidies and money.

Similarly, the assessment of government policy response depends more on the services available in these organizations. It should indicate that these services will be given more attention to get a higher state response. Second, the importance of continuous organizational interaction to use it is supported in this study. Common perceptions of the benefits of a state are well predicted and well defined by performance, democracy, and inclusion. Other items that promoted effectiveness during organizational change account for more than 50% of the variance concerning state responsibility. In the interim, management schemes with high service quality are operative in tempting residents to continue harmless from the epidemic. Their services and health care improvements are the efficiency and convenience for institutional change.

POLICY IMPLICATIONS

For the policy implications, the outcomes of this study have at least two inferences: the development of service quality during the

time of organizational change (Richards, 2019). The second is the perception and reliance on how management schemes endorse competence, fairness, and all-inclusiveness. Other implications are to improve nationals' trust over the management politicians and calculate inventors who must take comprehensive actions to recover the health care of the common individual in Pakistan. Further, the organizational quality along the dimensions of the system that include the intra-organizational specialization, faster change, accumulation of knowledge, and the adhocratic team provides a greater source of state response to the crisis of COVID-19. The implications of this study suggest that technical features such as technology inclusiveness and virtual programming among key state units can make accessibility and reliability easy for the actions. There are positive and negative effects on the health of the common person where one can predict that organizational change if managed properly, can resist such destructing effects. Service distinctiveness and organizational change management are significant in explaining the desires and obligations of situations that influence organizational performance.

LIMITATIONS AND FUTURE RESEARCH

The study reflects a significant future contribution to achieving institutional change directions and results. These public sector administrations are significant panel sets for re-joining public services and accessing crises. In light of this, future

research can be protracted for these participants, and their aims for reuse can be examined while different models are involved or developed.

In addition to this other channel, the government can effectively use it for interactions with the public. The provision of diversified and personalized public services during organizational change can be a new trend for the Pakistani government. Another possibility would be for a future study to investigate the continued use behavior of citizens during this emerging crisis.

The goal would be to challenge the descriptive control and pertinence of the intangible archetype in developing management response and disaster of well-being. A significant course for future research is the growth of examination substances while seeing this case through the adapted rules and tentative process. These steps pertained to effective management in situations of overhauling change.

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Networks & Virtual Department

How the networks of virtual departments are the reflection of positive policy response					
The improved institutional structure can sustain the original policy of the state?					
Do you agree that effective communication can improve the security and health of citizens?					
The standardized measures and health services can reduce the cases of viruses in Pakistan					
How is organizational change a comprehensive process in tackling the COVID-19 crisis?					

Accumulating Knowledge

Is the implementation of effective policy through a scientific approach good or bad?					
Effective organizational cooperation can influence the easy communication					
The learned guide can present a good picture during a time of change					
Communication can be facilitated by the support of security organizations and healthcare					
Patients can easily access facilities of their choice					

Faster Change

Faster change in Pakistan can promote organizational capacity					
The organizational environment is directly connected with improved and secure public services					
Departmental coordination and communication can enhance training and change					
The media can be effective in presenting Pakistani measures for a common person					
Organizational change is the realm of Pakistani officials to tackle any crisis					

Adhocratic Team

There are environmental impacts of team building for effective policy response					
The cooperation of key departments supports positive organizational change					
Does safe and secure health care have an optimistic perception for the people of Pakistan?					
The procedure of organizations can facilitate international issues like Coronavirus					
The active communication by the foreign office is supportive in tackling the crisis of the Pakistani diaspora abroad					

Overseas Teaching: The Voice of Filipino Early Childhood Education Teachers in Singapore

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ABSTRACT

This paper describes the lived experiences of Filipino early childhood education (ECE) teachers in Singapore. It utilized the qualitative research method, particularly Husserlian phenomenology. Fourteen Filipino ECE teachers were involved in this study who were chosen through purposive sampling based on the inclusion criteria - bachelor's degree graduates with specialization in ECE in any higher education institution in the Philippines and currently teaching in Singapore for at least two years. The researcher was regarded as the main instrument using the semi-structured interview. Colaizzi's method of data analysis was used to interpret the transcriptions. The analysis of the interview captured the experiences of the Filipino ECE teachers in Singapore and revealed the five overarching themes: Teaching abroad as life's turning point—Decision; Rigors of working abroad—Realities; Optimistic regard for adverse experiences—Conviction; Necessities for a successful pursuit—Fundamentals; and the desire to Echo the overseas journey upon return—Impact. These constitute the voice of ECE teachers in Singapore as they

teach overseas. It can be construed that the Filipino ECE teachers' experiences in a foreign country, no matter the adversities, have resulted in favorable outcomes and valuable life encounters that developed their professional, personal, and economic facets of life. This study provides the frame of reference for teachers who wish to venture overseas teaching on the circumstances they might encounter, whether on the personal or professional level. It also sheds light on the education department's efforts to

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strengthen the current educational system and internationalize ECE programs at higher education institutions in the Philippines.

Keywords: Colaizzi, early childhood education, ECE Teachers, Filipino teachers, phenomenology, lived experiences, overseas teaching, teaching abroad

INTRODUCTION

Education is the most effective weapon in global growth because no nation can survive in oblivion without exploring the relevance of global developments and reform in all facets of life. Globalization has had a major effect on education and its policies. In this aspect, the world seeks to find more competent and top-of-the-line educators as it strives to advance the standard of quality education. To deal with the dynamic demands in a diverse learning environment, foreign schools continue to employ teachers notwithstanding ethnicity and race while putting a premium on competence, values, attitude, and skills.

United Nations Educational, Scientific and Cultural Organization (2018) has intensified the campaign that quality education would need well-trained teachers. Conversely, many teachers face meager salaries and precarious working conditions and must perform their responsibilities in unsafe or deprived settings. Since early childhood teaching is viewed as an inferior occupation in many developing countries, hiring competent teachers is an unrelenting challenge. A professionally trained early childhood educator who understands how to build a diverse and accountable learning culture is the heart of the top-quality early

childhood learning experience. Despite the critical role that early childhood educators assume, expanded public interest, and incremental investment for quality early education, early childhood educators are still imperiled to underprivileged employment situations (National Association for the Education of Young Children [NAEYC], 2015).

The case is different in Singapore. There has been a huge clamor for early childhood education practitioners recently. According to Tan (2017), at the turn of the twenty-first century, the Singaporean government spent sufficient financial resources on developing and implementing policies and initiatives to upgrade the effectiveness of preschool education (PSE) in several regions. Zulkifli (2010) corroborates that the government agrees and understands that the formative years are paramount for children's holistic growth, and education must continue to be appropriate and flexible to address the optimum learning needs of young children. This action is evident as the government spends lavishly on education, investing about half of its overall social development budget, which amounts to around 3% of GDP per year (Singapore Department of Statistics, 2016).

According to Goy (2017), there is an emerging need for childcare programs in Singapore to satisfy the needs of young families. Currently, in a report by Elangovan (2020), the early childhood sector, according to the Minister for Social and Family Development, is excellently improving, with preschool sites forecast to upsurge from

180,000 to 200,000 by 2023. Therefore, it can be construed that the trend in hiring early childhood educators will continue to escalate in the coming years.

Filipinos who teach in other countries are recognized for their academic abilities, particularly in teaching the English language. As a result, Filipino teachers are marketable, especially in countries that have extended their curricula to contain English as a subject or a course. What is more, Filipino teachers are also well-reputed for being outstanding educators in early childhood education, physical education, and music (WhatALife, 2020). The Philippine Statistics Authority (PSA, 2019) Survey on Overseas Filipinos revealed that the total number of Overseas Filipino Workers (OFWs) who went abroad for employment between April and September 2019, including teachers, was projected to be 2.2 million. The Philippine Overseas Employment Administration (POEA) statistics report on the deployed OFW teachers exposed that the teaching professionals exported to Singapore comprised 14% in 2016 and increased to 17% in 2017 (POEA, 2016, 2017). These notable figures continue to rise as the trend, and increasing demand for early childhood education professionals continues to surge in Singapore.

Seeing an increase in the number of teachers leaving the country is foreseeable since these figures are rising yearly. Working and relocating abroad is a big decision to make. As a new migrant, it can be challenging because one is now living in a nation that is vastly different from his or

her own. One of the most difficult aspects of relocating abroad is figuring out how to seamlessly integrate into one's host country's culture, traditions, environment, language, and customs, especially if it is a first-time experience in a different country. Thus, this study aims to put the life of a Filipino early childhood education teacher in Singapore into context. It can aid in preparing the teachers for the international teaching career, adapting to the cultural practices, and providing some basic information about Singapore's host country.

These teaching professionals discern to work abroad for numerous purposes. First, the Philippine government constantly protects its citizens from fraudulent recruiters and dubious agencies who trample on interested teachers (Sumalinog, 2020). In this sense, as Filipino teachers teach overseas, they gain insights and improve teaching strategies, placing them at an advantageous corner. Moreover, their foreign exposure makes them seem more creative and innovative in their respective classes. Additionally, they acquaint themselves with a diverse range of curricula, communicate with other professionals, and in due course, become professionally developed (Altun, 2015).

Hence, it is noteworthy to unveil the realities that the early childhood teachers experience while creating their professional identities in a first-world country like Singapore and the implications of these experiences to their job as teaching professionals. The results of this study could provide a window for other teachers who

desire to teach in foreign countries. It could also illuminate our education department to improve the present educational system alongside the internationalization of early childhood education programs in higher education institutions.

DOMAIN OF INQUIRY

This study focuses on exploring the lived experiences of Filipino early childhood education teachers in Singapore and the meanings of these in their lives. Specifically, it aims to describe the decision that motivated the teachers to work in a foreign country, the realities that they have experienced, the personal conviction that helped them thrive, the fundamental skills and qualifications one must possess, and the impact of this endeavor to their lives.

LITERATURE REVIEW

Globalization launched more incentives for even more people. From the education perspective, it has increased opportunities for teaching and learning by promoting interconnectivity and cross-cultural experiences. In this aspect, working in a foreign community requires a person to be goal-oriented, possess the requisite qualifications, and be adaptive to succeed. Therefore, it emphasizes the importance of ensuring the right goals and mindset to thrive in teaching abroad (Uytico & Abadiano, 2020).

Generally recognized as an essential component of the educational system, teachers are at the forefront of expertise, competence, and values transmission.

Hence, they are known as the educational system's cornerstone. Following this idea, quality teachers must have quality learning experiences, particularly in early childhood education. According to Organization for Economic Cooperation and Development (2019), a plethora of multidisciplinary literature supports the importance of quality early childhood education and care (ECEC) in laying a firm ground for lifelong learning that would lead to reaping social and economic benefits. These long-term opportunities have persuaded many countries worldwide, including Singapore, to emphasize ECEC on their national agenda, bringing concerted campaigns to achieve quality ECEC. Tan (2017) revealed that the Singaporean government policy is aimed to concentrate its attention on ways that can have the utmost leverage in boosting the overall standard of early education and improving the availability and accessibility for youngsters, including those from low-income households, in having a good start by completing quality preschools. Thus, this perpetuated the surge of the need for early childhood education professionals in their country.

Filipino teachers, having a significant level of English language competence and other relevant skills, heed the reverberating demand of early childhood teaching professionals in Singapore. One of the major findings of teacher migration and mobility, according to Education International's worldwide study in 2014, is those migrant teachers take chances to better their lives, boost their living conditions, or progress

their careers. For those who want to teach internationally, teaching may be a way to explore the world, appreciate other cultures, and develop cross-cultural competencies (Chacko & Lin, 2015). Hauerwas et al. (2017) stated that overseas teaching is an attractive choice for educators looking for work outside their home countries and cultures.

In light of this matter, better-equipped teachers are needed to teach in foreign countries. According to a study by Garcia (2018), the international teaching practicum is a valuable internship opportunity that fills the gap between mentors and teacher interns. This international teaching experience gave students a greater understanding and respect for other nations' history, society, education, and customs. This experience teaches the teacher interns how to properly translate educational findings and concepts to more practical and skill-based approaches to learning. It greatly impacts their fundamental training to become globally competitive educators.

According to Shiveley and Misco (2015), being employed in a foreign country has both personal advantages and pitfalls. Working overseas increases teachers' transnational awareness of the value of education. When teachers start in a new environment, they become more adaptive and reflective of their teaching methods and get rid of their dogmatic thought. Hence, they will use their concepts to improve international teaching methodologies. Teachers who teach in a foreign country develop their pedagogical abilities by

presenting students with the opportunity to consider several viewpoints and issues from various perspectives. Frederiksen (2014) and Sharma (2012) mention the benefits and drawbacks of living in another country. Teachers benefit from creating acquaintances from distinct nationalities, engaging new students, and learning a new language. Further, the motivations for teachers to want to work overseas were salary differentials, improved working conditions, family migration, and professional development exposures.

In the study of Modesto (2020), it was apparent that Filipino teachers in foreign countries perceived their experiences as growth, an opportunity, and a challenge. The study of Reyes et al. (2020) suggested the coping strategies, such as sociability, personality, and adaptability, which Filipino teachers must utilize for managing the problems of the employment world, including problems with the learners, along with the issues of the co-workers and the parents of children of various nationalities. Filipino educators are continually faced with opportunities abroad and difficulties they must resolve. Adapting to a different setting also proves daunting, often challenging these educators' personal and professional lives. Filipino educators are required to adapt to thrive no matter the differences and stress of transitioning to their social roles and expectations in their host countries. Similarly, revealed in the study by Dunn (2011), the challenges faced by Indian immigrant teachers were student conduct, culture shocks, communication issues,

modern educational methods and curricula, and cultural bias knowledge among the students. Moreover, it is illuminated that parents and students were disturbed by accents from immigrant teachers because of the pattern of distracting and confusing students.

In response to these challenges, teachers should note that quality learning and experience are at the center of education. In this respect, teachers should consider the cultural distinctions of learners (Medved et al., 2013).

To Bryan (2020), based on how much thought one puts into it, deciding to teach overseas will either advance the career in education or merely bolster the curriculum vitae and equip the teachers with expertise that can benefit them in other fields. It will give teachers an advantage over other teaching practitioners because they can claim real-world and direct experience that few others do. They learned new moves they could use in any classroom situation if they returned to teach in their home country, the Philippines.

METHODS

Research Design

This paper employed the qualitative research method, widely utilized in educational studies, particularly Husserl's phenomenological design. It aims to capture the informants' lived experiences and reduce them to an elucidation with universal meaning. In this type of phenomenology, the author supersedes or expels past experiences

to understand a phenomenon extensively. It endeavors to generate rich descriptive data from a lived experience by approaching it with a context of "novelty" (Creswell & Poth, 2016). The design is mostly consistent with the objectives of this research paper. It lays out specific steps and a direction for comprehending and analyzing the life perspectives of Filipino ECE teachers in Singapore.

Key Informants

Fourteen Filipino ECE teachers in Singapore were involved in this study and were chosen through purposive sampling. This figure corresponded to Laverty's (2003) estimate of five to twenty-five people who had experienced the same phenomenon. These informants sternly underwent a criterion-referenced sampling process. Generally, these informants are bachelor's degree graduates specializing in early childhood education in any higher education institution in the Philippines. In addition, they must be teaching as an ECE teacher in Singapore with at least two years of teaching experience in the said country.

Permission was asked from the key informants, and an informed consent form was given. Ample time was extended for the participants to consider their study involvement. Upon their consent, the purpose of the research, the scope of their involvement, the potential benefits and risks, the informants' rights, and anonymity were all clarified.

Instrument

In qualitative research, the researcher is primarily regarded as the research tool. Thus, the ability to perceive “mundane” information, conduct thorough interviews, and reflect on the substance of observation and interview data are all crucially important to success (Xu & Storr, 2012). In this vein, the researcher used semi-structured interview questions that undergo validation by the experts. The purpose was to unveil and examine the lived experiences of Filipino ECE teachers in Singapore and the meanings they attribute to these in their lives. Interviews and focus group discussions were done through Zoom, a virtual teleconferencing platform.

Data Analysis

Colaizzi’s (1978) method of data analysis, which comprises seven steps, was used to interpret the transcriptions. Initially, (1) transcripts were read multiple times to get a general impression of statements. (2) Relevant phrases or sentences that relate specifically to the research objectives were determined from each transcript. (3) Noteworthy utterances and expressions were then used to construct meanings. (4) The formulated concepts were grouped into themes, enabling similar themes to appear through all the informants’ transcripts. (5) The findings were then incorporated into a rigorous and extensive explanation of the phenomena. (6) Following the collection of descriptions and themes, the researcher synthesized the detailed description into a brief, dense statement that captured only

the elements considered critical to the phenomenon’s nature. (7) The researcher approached the participants in the final phase to confirm the results.

RESULTS AND DISCUSSION

The analysis of the interview captured the experiences of the early Filipino childhood education teachers in Singapore and revealed the five overarching themes that can be gleaned in Table 1: Teaching abroad as life’s turning point—Decision; Rigors of working abroad—Realities; Optimistic regard for adverse experiences—Conviction; Necessities for a successful pursuit—Fundamentals; and the desire to echo the overseas journey upon return—Impact. These constitute the voice of ECE teachers in Singapore as they teach overseas. The following sections explain the various viewpoints on the topic.

Theme 1: Teaching Abroad as Life’s Turning Point — Decision

Teachers have expressed and considered teaching abroad as life’s turning point. In other words, it was a decision based on several reasons, namely: attractive remuneration packages, desire to have supportive and compassionate leaders, and local teaching encounters as stimuli in working overseas, optimistic regard for adapting to a new culture, passion for educating amidst challenges, and pursuit for independence and self-growth.

Teaching abroad as life’s turning point can be considered a decision rooted in the numerous encounters of the teachers from

Table 1
Thematic analysis of the voice of Filipino early childhood education teachers in Singapore

Theme Clusters	Emergent Themes
Attractive remuneration packages Desire to have supportive and compassionate leaders Local teaching encounters as stimuli in working overseas Optimistic regard in adapting new culture Passion for educating amidst challenges Pursuit of independence and self-growth	Teaching abroad as life's turning point—Decision
The desire for familial affection Differences in ECE programs and practices Disparities in language and culture Independent living takes discipline Unfamiliarity with some assessment practices	Rigors of working abroad—Realities
Cultivation of one's spiritual dimension Dynamism in adapting cultural barriers Learning the art of teaching by heart Local teaching experience as a springboard for a seamless transition Strong stance on working overseas Teachers' positive regard for the profession	Optimistic regard for adverse experiences—Conviction
Academic preparation Adjustment in teaching pedagogy for multicultural setting Awareness of the international education paradigm Bringing forth the theory into practice	Necessities for a successful pursuit—Fundamentals
An experience of a new place Professional development from international encounters Sharing the experience when coming back home	Echoing the overseas journey upon return—Impact

their personal and professional endeavors. Firstly, teachers revealed that they need to be practical as they have financial obligations to fulfill for their families; hence, the attractive remuneration packages encouraged them to teach in Singapore.

“From a practical and direct point of view, it offers an attractive compensation. When you are young

and endowed with aspirations for yourself and family, you want to earn a decent amount to fulfill these.” (p2)

To Uytico and Abadiano (2020) and Sumalinog (2020), financial growth was a driving force since assisting family members back home was necessary. They have families to tend to, needs to fulfill,

investments to undertake, businesses to start, and siblings to educate. Secondly, teachers also desired to have supportive and compassionate leaders that would provide an objective professional development plan since this boosts teachers' enthusiasm and productivity at work.

Also, teachers have experienced undesirable local teaching encounters such as out-of-field teaching and unsupportive leaders who are inappropriately implementing early childhood practices in the Philippines.

"Being in Singapore for almost 3 years was indeed enriching because I've been given a lot of courses/ training which made me enhance my knowledge and skills. It has perks that, like any other first-world country, undeniably support your personal and professional growth." (p12)

"I handled higher elementary students in the Philippines, and it was more on a traditional set-up. I wanted to challenge myself to try teaching in a foreign country that has childcare set up wherein you need to feed, shower, and get them to sleep for the whole day." (p1)

Altun (2015) expressed that teachers are motivated to experience supportive working environments and leaders. While overseas, teachers participate in workshops and improve teaching strategies provided by their administrators. They can also work

with local teachers and gain new skills because of their encounters.

In a multicultural country Singapore, teachers have shown optimistic regard in adapting to a new culture and upheld their passion for teaching amidst challenges. The willingness to adapt to a new culture despite its adversities has helped them thrive while working and living in a foreign country.

"I had to learn their way of speaking since Singapore is a multicultural society made up of different races, languages, and religions. Being receptive to new learnings and flexible to changes will bring you an extra mile". (p11)

"It was very challenging at first because I was designated in a childcare center and assigned in toddler class during my first 3 months which I didn't have any hands-on experience, especially in terms of childcare service (e.g., proper diaper changing, bathing, preparing milk and timing, etc.). Aside from that, I was also adjusting and coping with their culture. Nevertheless, it was a humble fulfillment as I was able to cope with and learn more of their curriculum/education system". (p5)

To Hultquist (2007), by working abroad, these teachers strengthen their cultural sensitivity and recognize the context of their students, particularly international students in their classes. In this study,

teachers stated that this experience was a learning opportunity to grasp and appreciate new educational paradigms. For them, the job can be taxing at times, but it is also a rewarding experience in different spheres of their lives. Further, teachers deemed teaching overseas as a pathway in the pursuit of independence.

“I grabbed the opportunity for me to widen my perspective and to grow as an effective and efficient educator.” (p9)

“I want to broaden my horizons and grow as a person, to grow independently, be strong in terms of decision-making, letting myself more fully realize who I am, where I come from, and what can I contribute to the children develop holistically.” (p10)

Working in another country helps increase teachers' confidence and self-reliance, tolerance for others and knowledge of and respect for others' perspectives. They are adaptive to their immediate environment and exhibit composure when conversing with others (Serin, 2017). Teachers pursue working abroad since this increases autonomy in defining, implementing, and assessing their life goals. Consequently, there is an increase in self-growth.

It can be construed that working abroad is not just fueled by a single reason. It is a conglomeration of whys and wherefores that ignited the teachers to reach a certain decision. One's rationale for working in a

foreign country must not be solely anchored on the idea of having high compensation only. It requires an individual to possess the optimism to accomplish the job productively, the passion for continuing amid inevitable challenges, and the desire for independence and self-growth while in a foreign land. Hence, teaching abroad is considered life's turning point.

Theme 2: Rigors of Working Abroad — Realities

In this study, teachers articulated that there are various rigors of working abroad and these represent the realities that they experience in their day-to-day life in a foreign country, i.e., the desire for familial affection, differences in early childhood education programs and practices, disparities in language and culture, the need for discipline in independent living, and unfamiliarity with some assessment practices in school.

Aside from the benefits of living in a developed and progressive country, they also experience challenging situations that they must overcome to attain their goals. Firstly, teachers desire familial affection, as observed in the following statement.

“I believe the distance has been a major obstacle. It separates you from your life back at home.” (p1)

Similar to the study of Gül and Gökçe (2020), participants reported that making acquaintances in the nation where they work was challenging, especially with the locals. Besides, they only formed acquaintances

inside the professional network, which is usually short-lived. It stresses the importance of having affection from friends and family to provide emotional support. In this study, teachers articulated a comparable predicament that distance has been a major obstacle since it separates you from your life in your home country.

The respondents also mentioned that differences in ECE programs and practices are prevalent since the curriculum focuses more on self-help skills than academics.

“It’s different when you teach ECE in Singapore. You must adjust to their culture and their curriculum. The focus is not on academics but more on self-help skills. Students stay in school for the whole day, and we do everything about childcare.” (p7)

“They use Authentic Assessment of Teaching where it demonstrates what a student learns in class rather than the student’s ability to do well on traditional tests and quizzes.” (p12)

“Early childhood education programs and policies are appropriately funded, implemented, and monitored by ECDA. Low-income families are subsidized.” (p5)

Disparities in culture and language are also evident. For example, teachers struggle to communicate with parents who are not proficient in English.

“Since Singapore is a multiracial country, you can encounter parents/colleagues that cannot express themselves well in English.” (p7)

“Sometimes, I encounter misunderstanding with the parents and administrators because of the differences in the culture so I think it is always better to have an open mind and show respect to other cultures as well.” (p2)

Due to differences in cultures, there are times that teachers encounter misunderstandings with their administrators too. Guvendir (2017) and Ozdemir et al. (2015) mentioned that when teachers relocate to another country, one of the most common challenges they face is adapting to unfamiliar setting. Teachers unfamiliar with the cultural identity of the place where they teach and operate in a constrained social environment struggle to have a sense of belonging to that place and the institution where they work. To Halicioglu (2015), such duties and expectations were desired by teachers to obtain international experience and understand the culture. However, no matter how prepared they are for their mission overseas, cultural shock is inevitable. In this study, teachers stressed that having an open mind and respect for differences helped them reorganize their views toward diversity. Therefore, cross-cultural education is advocated to bridge the cultural divide by teaching expatriates the critical information they may utilize while on assignment abroad. Further, it assists the

individual in being better acquainted with the cultural context, which will aid them in managing their expectations and encounters while teaching in a foreign country.

Teachers also revealed that living independently takes discipline.

“One must have prepared financial management skills and plan your budget as the cost of living is high. I need to look after myself responsibly.” (p13)

Teachers must consider that one of the prime reasons for working overseas is to have financial stability and better life conditions (Frederiksen, 2014). Aside from looking after oneself responsibly, one needs to have good financial management skills as the cost of living is high in Singapore; hence, one must practice this skill maturely. Teachers also cited unfamiliarity with some assessment practices as one of their significant challenges.

“I have less exposure to making anecdotal records, incident reports, and making portfolio assessments of children while in the Philippines. I wasn't exposed to Singapore's actual classroom set-up for both childcare and kindergarten such as having the six learning domains in setting up the classroom environment while in the Philippines.” (p8)

Teachers quipped that they have not as much exposure when assessing children authentically through online portfolio assessment. Aside from that, teachers did

not have a thorough preparation regarding childcare, a significant component in early childhood education practice in Singapore's educational system. Though teachers have limited orientation about these educational practices in Singapore, to Shiveley and Misco (2015), teaching in another country increases a teacher's global understanding of the importance of teaching. Since they experience a new culture, teachers become more receptive and analytical about educational processes and renounce their dogmatic views. Teachers who teach in a foreign nation enhance their pedagogical knowledge by allowing their students to grasp diverse views and issues from varied perspectives. It can also be gleaned that teachers with international experience can better appreciate diverse cultures and identify the flaws and strengths of their educational systems in their home country.

Theme 3: Optimistic Regard for Adverse Experiences— Conviction

Revealed in this study are the optimistic regard for adverse experiences that reinforce teachers' conviction to thrive in working overseas, namely: cultivation of one's spiritual dimension, dynamism in adapting to cultural barriers, learning the art of teaching by heart, local teaching experience as a springboard for a seamless transition, strong stance in working overseas, and teachers' positive regard for the profession.

In this study, it was unveiled that the cultivation of one's spiritual dimension can help one to stay grounded no matter the

difficulties one encounters in their personal and professional life abroad.

“You must be strong enough to handle problems and face them because no one will help you, only yourself. You need to be spiritually connected with God because in times of trouble. He is the only one who will make you feel okay and relaxed. Believe in Him.” (p9)

Clemens (2014) supported this finding in his study. He stated that being away from home for a considerable time developed some stressors and triggered anxiety since this experience can be isolating and upsetting in numerous ways. They embraced spiritual coping mechanisms to overcome feelings of separation, misery, frustration, and homesickness.

In terms of the adjustment to the changes in the educational practice brought about by the multiracial context of Singapore, teachers’ dynamism in adapting to cultural barriers is necessitated.

“Singapore has been adapting more to British customs and this country is multiracial due to the expatriates. In this manner, diversity in teaching is more practiced and exposed where respect for ways, customs, and celebration of multicultural events are all highlighted. Thus, making the teaching more dynamic in nature.” (p8)

Gul and Gokce (2020) stated that working in a foreign educational setting

with different regulations also produces concerns with adaptation. Participants said they struggled to adjust to education and school culture for a long time, owing to a lack of prior understanding regarding student and parent demographics. Thus, it can be suggested that teachers must have a proper and intensive orientation on a certain country’s background and cultural practices before deployment. To lessen the burden on teachers in adapting to the norms of the host country, they need to prepare themselves for the tendencies that might happen and deal with them proactively.

Apart from that, teachers stated that learning the art of teaching by heart and developing parent relations techniques can help you propel your teaching job in Singapore.

“Continue to learn more different teaching styles, strategies, and approaches in teaching. One must also learn some techniques to communicate with parents from varied races, like Singaporeans, Malays, Indonesians, Chinese, Indians, and many more.” (p11)

To Serin (2017), teachers at the core of education must respond appropriately to their students’ learning requirements; thus, knowing their students’ language, being aware of their cultural values, and promoting learning-friendly attitudes are all vital. Therefore, it is suggested that, since the children are still too young, a constant collaborative effort between the school and the home needs to be in place to track the child’s development carefully.

This study also revealed that local teaching experience as a springboard for a seamless transition, especially in a multiracial classroom or an international school, can be good exposure and an edge so one can seamlessly adapt to teaching overseas.

“I worked in a private school in Cebu City (Philippines) that catered to international children who are Korean and Chinese by race but were born in the Philippines. This experience made me well-prepared to teach in Singapore, for I knew that the country was also multiracial. I already expected to have different races in my class.” (p12)

DeVillar and Jiang (2012) mentioned that having relative experience is critical for educators to recognize the values and beliefs of children from various cultural backgrounds to train them effectively and efficiently.

Additionally, it requires a strong stance in working overseas since teachers will be detached from their families in the Philippines. No matter the circumstances, ECE teachers need to have a conviction to carry out the expectations of the job.

“It takes true dedication and compassion to be a preschool teacher in Singapore. You’ll be spending most of your time with the same group of children.” (p4)

“I must brace myself for the greater responsibilities as well as the

obstacles that I will face as I enter a foreign country. I must emotionally and mentally train myself.” (p1)

Halicioglu (2015) explained that an individual’s capacity to manage well with multicultural situations is influenced by his or her personality. As a result, the teacher’s attributes might be detrimental if they are not favorable to assist her in making the essential changes to her transfer overseas. Curiosity matters and this encompasses a willingness to learn a foreign language, which helps with cross-cultural adaptation and demonstrates a better perception of the host country. If teachers do not possess “a tolerance for ambiguity,” they will have difficulty teaching in other countries.

In this study, it was also revealed that positive regard for the profession fuels the motivation of the teachers.

“I was able to gain experience in working with young children with their artistic hands and little toes. I was able to see the value of each child and how children enjoy exploring the world. I learned how important a role and an influential person a teacher is in students’ life.” (p13)

Valuing the teaching role helps them appreciate the unfolding beauty of the children’s development. As an outcome, teachers can feel they have a vital role to play, which may increase their strong sense of purpose. To Utumapu-McBride (2013), teachers who understand the needs and upbringings of their students are excellent.

Empowering learners start with recognizing what they can provide to the classroom and then utilizing culturally relevant approaches to link and develop their potential to achieve their studies. To preserve that foundation and professionalism, teachers must continually evolve their work in response to input from others (such as students and colleagues).

Theme 4: Necessities for a Successful Pursuit — Fundamentals

In this study, ECE teachers revealed that there are necessities to pursue working abroad successfully. These are the fundamentals for teachers to thrive in an international teaching arena, namely: academic preparation, awareness of the international education paradigm, an adjustment in teaching pedagogy, and bringing forth theory into practice.

The pathways to overseas teaching may lead to achievement or disappointment, thereby considered an uncertain undertaking. However, the participants in this study revealed necessities for a successful pursuit which they appraised as the fundamentals for a seamless transition to a foreign country.

The participants mentioned that relevant academic preparation is key in jumpstarting their careers as ECE teachers in Singapore.

“Relevant academic preparation in the University plays an important role as it helps us be open to the different school settings/curriculum in every part of the world.” (p2)

“As a foreigner, to be a successful ECE teacher in Singapore, you will

need to have a Diploma/Certificate in Early Childhood Education and a language proficiency test such as IELTS.” (p5)

Teachers mentioned that university programs provided them with theoretical and practical knowledge of early childhood education that is valuable in their job. Passing a language proficiency test such as IELTS can also be an edge for teachers over other aspirants to obtain a teaching job in Singapore easily. The education ministry in Singapore sets an unbending standard since they believe, according to Karuppiah (2021), teachers with greater credentials and particular expertise in childhood development are more likely to execute optimal quality early childhood programs. Interactions between the teacher and children proved to be a vital process indicator that underpins the quality of students’ learning experiences. The quality learning interactions are anchored on the professionalism and competence of the ECE teachers, along with their backgrounds, values, and principles.

Teachers disclosed that adjustment in teaching pedagogy for multicultural settings is necessitated since the preschool curriculum in Singapore is contrary to the academic-focused curriculum in schools that they have experienced in the Philippines.

“I also realized that I needed to think of more activities to engage the children of various races due to the play-based and authentic-based approaches in the curriculum here in Singapore.” (p6)

With the presence of various races in the classroom in Singapore, teachers' creativity is sought to cater to their needs using play and authentic-based approaches, which they must implement. In addition, to Yang and Peh (2021), a context-relevant strategy is essential to enhance students' learning experiences in educational settings. Set in the specific setting of Singapore, teachers are challenged to design curricular experiences that meet the socio-cultural realities.

The participants in this study stressed that awareness of the international education paradigm is beneficial for teachers as they venture overseas teaching.

"Study, learn, and be exposed to Singapore's actual classroom set-up for both childcare and kindergarten such as having the six learning domains in setting up the classroom environment." (p8)

"I think that universities should begin thinking of ways on how to collaborate with the preschool governing body in Singapore (like ECDA) or maybe with preschools in Singapore. They can come up with a student exchange program or maybe a tour for a few days/weeks which can serve as an orientation, whereby aspiring ECE teachers can have an opportunity to learn the Singapore curriculum even before they think of working here." (p10)

Familiarizing the Singaporean ECE curriculum and the learning domains in

setting up the classroom environment can be an advantage before coming and immersing in the teaching job. Teachers also highlighted and hoped that higher education institutions in the Philippines might consider benchmarking or collaborating with the preschools in Singapore and have Student Exchange programs to give Filipino teachers a glimpse of the best teaching practices in Singapore. This finding proved to be similar to the study of Sumalinog (2020) on Filipino teachers abroad, where the teachers saw the need for international internships to be embedded in the curricular offering of the Philippines. In addition, to Kabilan (2013), pre-service teachers benefit greatly from such exposure in terms of expanding their skills and expertise, developing their ideologies and thus their cross-cultural effectivity, coping with new environments, gaining a global outlook, and increasing independence, self-confidence, and quality of life.

According to the participants, bringing theory into practice significantly aided them in being successful ECE teachers in Singapore.

"We are exposed to a variety of languages, allowing us to become acquainted with our students' cultures while also learning from them. Furthermore, the school provided us with the autonomy to explore what a preschool should be like, from hands-on experiences to authentic assessments." (p1)

Unlike their experience in their home country, the Philippines, where they were

constrained to the academic-focused practice in their schools, in Singapore, teachers are given the autonomy and the materials to conduct authentic assessments and practice the theories and principles of ECE more concretely. The promotion of authentic evaluation is in line with Singapore's objective of steering away from "quantity to quality." To shift a curriculum from a concentration on "quantity" to an emphasis on "quality," students must demonstrate "maturity" in "taking ownership" of their learning and teachers must "let go" of their achievements (Koh et al., 2012).

Theme 5: Echoing the Overseas Journey Upon Return — Impact

In the current study, the Filipino ECE teachers in Singapore are motivated to echo their overseas journey upon return to their home country. It underpins the impact they have experienced in living and working in a foreign country, such as their experience of a new place, professional development from international encounters, and their interest in sharing their experience when coming back home.

In this study, teachers stressed that one of the highlights of their journey is the experience of the new place.

"The environment is clean, beautiful, and safe as they have tighter laws implemented in Singapore." (p8)

"... teaching here in Singapore will be one of the steppingstones to teach and apply to other countries

such as Canada, New Zealand, and other countries." (p9)

According to the participants, Singapore has a conducive environment that is clean, beautiful, and, most importantly, safe because of the laws being implemented. The participants also regarded working in Singapore as a gateway to working in other well-developed countries. Several studies corroborate this finding that teachers sought to encounter new people from all walks of life, experience new cuisines and flavors, and travel to interesting areas close to their locations. As a result, teachers choose to live autonomously for personal growth and obtain teaching experience in a multicultural setting (Online English Teaching Jobs, n.d.; Uytico & Abadiano, 2020).

Additionally, the participants claimed they gained professional development from international encounters.

"Teaching abroad helps me to immerse new culture while gaining professional skills. I gained more opportunities by meeting new people, learning international work experience, and even getting out of my comfort zone." (p6)

"We are exposed to a variety of languages, allowing us to become acquainted with our students' cultures while also learning from them." (p1)

The participants simply obtained more opportunities by meeting new people, getting international work experience, and

even getting out of their comfort zones like exploring new hobbies and learning new skills. Participants are not only immersed in a new culture but they are also exposed to and eventually learn foreign languages. To Zayed (2018), regardless of the difficulties, teaching in a new place provides much sense of satisfaction that money cannot compensate for. The experience satisfied the desire to try something new and the ambition to make the most of it. To Shiveley and Misco (2015), besides professional growth and classroom experience, personal enrichment was a significant opportunity for teachers. This experience allows the teacher to understand better foreign cultures and the strong points and flaws of their own country's educational systems.

Further, it was revealed in this study that teachers are determined to share their experiences when coming back home.

“I enhanced my knowledge about the different techniques in handling small children, preparing materials for a classroom set up, and preparation of corners which we can share to our home country.”
(p13)

Teachers' pedagogical expertise was developed to be keen to share their insights if given a chance in the Philippines. From the accounts of Serin (2017), educators with international experience seem to be more motivated to learn about other cultures and have a more favorable yet critical perspective toward their homeland. They acknowledge that the foreign curriculum has the potential

to generate new learning resources and knowledge. By obtaining new ideas for curricular improvement, teachers working overseas may play a part in education and learning in their home countries. At a certain time, they may implement the relevant aspects of the international curriculum in their own countries.

CONCLUSION

Based on the findings, Filipino ECE teachers' experience in teaching overseas can be considered their life's turning point. In other words, it is a decision rooted in various motives such as an attractive salary and other benefits, the desire to have a supportive working environment, interest in working in a new culture, and the pursuit of independence and self-growth. There are also rigors of working abroad that can be characterized as the realities of their overseas journey. Some of these are the desire for familial affection, disparities in language, culture, and ECE practices, and the practice of discipline and responsibility while living independently. However, the participants demonstrate optimistic regard for the adverse experiences that mirror their conviction by cultivating their spirituality, dynamism in adapting to cultural barriers, learning the art of teaching by heart, using the local teaching experience for a seamless transition to the new workplace, having strong conviction to work overseas, and manifesting positive outlook for the teaching profession. Teachers also considered some necessities for a successful pursuit that can be construed as the fundamentals in their

journey teaching overseas. These are the relevant academic preparation and passing an English language proficiency test like IELTS, contextualizing the pedagogy for multicultural setting, being aware of the international education paradigm, and ascertaining that teaching theory in ECE are reflected in practice. From these experiences, teachers desired to echo their overseas journey upon their return should they be given a chance. The impact of teaching abroad since they got to experience a multicultural place helped them develop professionally through the various international encounters.

It can be construed that the Filipino ECE teachers' experience in a foreign country, no matter the adversaries, has resulted in favorable outcomes and valuable life encounters that developed their professional, personal, and economic facets of life. This study provides the frame of reference for teachers who wish to venture overseas teaching on the circumstances they might encounter, whether on the personal or professional level. It also sheds light on the education department's efforts to strengthen the current educational system by highlighting the ECE programs and services while internationalizing early childhood education programs at higher education institutions. Further, this can provide a rationale for the kind of support and policies that the Commission on Higher Education and other government offices can craft so that Filipino teachers can be more successful and adaptive in a foreign country.

IMPLICATIONS

With the dearth of literature regarding foreign ECE teachers in different countries, this research has put the life of Filipino ECE teachers in Singapore into perspective. These encounters mirrored the various opportunities and challenged Filipino educators working in a foreign setting faced. Primarily, it can help teachers prepare for international teaching careers, adapt to socio-cultural norms, and learn about the host country. Further, this could also be a benchmark to help the Philippines' education department improve the present educational system and internationalize the practices of early childhood education programs in higher education institutions. Finally, future studies on overseas teaching could be expanded to other areas, such as preserving teachers' professional identities while learning and adapting to the foreign countries' norms and practices. In addition, investigating how the foreign environment affects other outcomes, such as educators' job satisfaction and future career endeavors, is also recommended. As a result, new viewpoints and intelligent debates in the academic community can be sparked if desired.

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Analyzing the Portrayals of Child Sexual Abuse of Urdu Newspapers in Developing Countries

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ABSTRACT

Child sexual abuse is serious in any developing country confronting children's sexual exploitation. Certain factors are liable for fostering child sexual abuse, and the media can play a significant role in eradicating this issue. This research scrutinized the portrayals of child sexual abuse in three Urdu-Pakistani newspapers by analyzing the role of the newspapers concerning the burgeoning prevalence of child sexual abuse based on seven categories proposed by UNICEF. The data were generated in 2019 using a purposive sampling technique and analyzed using content analysis. The results revealed that the newspapers analyzed followed different ethical guidelines in reporting child sexual abuse, indicating that news reports contained details of helplines for victims. Statistically, the study found a strong and significant relationship between child sexual abuse cases and newspapers' reporting, recommending scrutinizing other aspects of child sexual abuse, especially pornography, to ensure a safer future for children in Pakistan.

Keywords: Child sexual abuse, children's rights advocacy, newspapers, social responsibility, Pakistan

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INTRODUCTION

Research debates about the role of media in spreading awareness about social issues and their elimination are of great magnitude. As a vital institution, the media (old and new) have a positive role in disseminating awareness of social phenomena (Davies et al., 2017; Mubeen & Qusien, 2019; Ye et al., 2020). Today's media (e.g., TV, radio, and

newspapers) form powerful communication tools and information to represent the factual picture of ongoing issues in society (Döring & Walter, 2020). The media industry gives the correct picture of current occurrences and also helps to tackle difficult situations in communities (Döring & Walter, 2020). As noted by Dwivedi et al. (2013), an increased dependency on media indicates the power of these relevant information resources in life, especially regarding social issues, e.g., child abuse, community division, people's rights, diversity, and race.

However, awareness of, and information about, these issues is only possible through different media platforms. As a result, society depends not only on the media; it is also influenced by what the media sometimes provides or highlights. For example, social activists and welfare organizations depend largely on the media to gain access to the public, spread awareness, and attain public support to sustain and preserve human rights in general (Ye et al., 2020). In this context, human rights and the role of the media are a much-debated phenomenon as the news media play their part in upholding such rights, particularly in increasing public and political awareness about the rights of different groups, including children, women, and other minorities.

Within the framework of contemporary media trends, international laws holistically support children's rights and resort to all media platforms to spread awareness. Agboola (2020) indicated that media platforms provide a distinguished avenue for highlighting children's-rights issues and

bringing them to the fore of public debate. Consequently, journalists are the champions of children's-rights advocacy. They address the prevailing issues and emphasize the need for a quick and effective response from those authorities concerned.

In cases of children's-rights violations, they can also provide opportunities for children to speak for themselves especially, concerning child sexual abuse. More particularly, we have observed a significant increase in child sexual abuse incidents in Pakistan. Both girls and boys confront sexual abuse at different levels (Ali, 2019). However, there is little research about child sexual abuse in South Asian countries, particularly Pakistan (Frederick, 2010). In aiming to rectify this, this research examines portrayals of child sexual abuse in Pakistani newspapers. It studies whether newspapers in Pakistan follow any ethical guidelines regarding reporting child sexual abuse and looks at how such matters are presented in newspapers, using seven categories proposed by the United Nations International Children's Emergency Fund (UNICEF) (Frederick, 2010). This study's contribution is acknowledging the role of newspapers in disseminating awareness of child sexual abuse and examining whether they follow ethical guidelines in reporting such matters.

The following section reviews the existing survey research regarding child sexual abuse, particularly in Pakistan, its leading factors to such abuse, and how it is framed in the Pakistani newspapers. The

data collection and analysis methods are presented next, followed by the findings and discussion. Finally, the paper concludes with a summary of key findings, research implications, limitations, and directions for future research.

LITERATURE REVIEW

In modern society, the media play an important role in highlighting issues regarding human-rights infringement (Döring & Walter, 2020) by providing information and awareness campaigns. For example, in their presentation of abuse, the media play a powerful role in spreading awareness about the infringement of human rights in society (Khalid & Yousaf, 2018; Salman, 2017a). McQuail (2003) defines media as an engine of change, and now the question arises as to what extent the media are fulfilling their responsibilities, particularly in terms of how their role in spreading child-protection awareness is important in influencing public opinion (Awatade, 2016).

Whether or not the media have reported any particular incident, or whether they are just bringing the issues to the public's consideration, this role is of great pertinence. News stories about child sexual abuse *largely* appear in the news media (Weatherred, 2017). The media representation of such abuse helps the public understand this social concern's nature and prevalence (Mejia et al., 2012; Saint-Jacques et al., 2012). Due to the growing number of media campaigns, the public is now tending to act against child molestation because they are more aware of

it (Weatherred, 2015), and they realize that the issue is serious and in need of attention.

In the digital media age, the public can notice and understand such issues (Weatherred, 2015) and help prevent child abuse. A study conducted by Bendo and Mitchell (2017) examined the link between media reporting and children's-rights coverage in Canada and found a significant relationship between media attention to children's-rights reports and cases reported to child-protection organizations. The media's role is also linked to the policy and practice of child-abuse awareness. For example, Weatherred (2015) further reviewed the available literature based on geographical boundaries and found that—at almost every level—the media play a significant role in spreading children's-rights awareness. In this regard, the role of the media in Pakistan can be of great importance.

However, in reality, the Pakistani media are struggling to change people's perceptions concerning their attitudinal change (Sabir, 2010), as reporting child sexual abuse is prominent in Pakistan (Jabeen, 2020). Not only do the media report the incidents, but they also tend to focus on in-depth details. Anne et al. (2008) acknowledged the role of newspapers in keeping a permanent record of news stories. Because of their huge readership, newspapers have the potential to influence convictions. The correlations between newspapers and child protection have been a focus of media debates because new policies and legislative systems in the media provide an independent voice

for civil-rights advocacy (Bharati, 2004; Dawson et al., 2012). Redefining journalism and its ethical practices, the media today can preserve children's rights in a larger context (Döring & Walter, 2020; White, 2011).

Child Sexual Abuse — An Overview

The word abuse distinguishes a state of illegal dominance over another person's behavior. It can also be described as a misuse of power and status to harass or sabotage another person and to make the victim more defenseless (Pucci, 2012). Abuse is not only physical desecration but goes beyond this to the next level. In addition, physical and emotional abuse, and now sexual exploitation, have become more common (Office of the High Commissioner for Human Rights [OHCHR], 1990). In considering how to save children from sexual abuse or harassment, the OHCHR, in Article 34, made the following proposals, which came into force on September 2, 1990:

“States Parties undertake to protect the child from all forms of sexual exploitation and sexual abuse. For these purposes, States Parties shall, in particular, take all appropriate national, bilateral, and multilateral measures to prevent: (a) The inducement or coercion of a child to engage in any unlawful sexual activity; (b) The exploitative use of children in prostitution or other unlawful sexual practices; and (c) The exploitative use of children

in pornographic performances and materials”. (OHCHR, 1990)

In 2014, across the world, one billion children aged 2-17 faced physical, emotional, and sexual violence. About half of adults said that they had undergone sexual molestation at an early age. One in 13 men and one in five women reported being sexually exploited in childhood (Chen & Chan, 2016; Malathi, 2016). Individuals of every age are vulnerable to sexual assault, but children are more defenseless, especially female children, with around 15 million girls reporting that they faced sexual violence during their early teenage years (UNICEF, 2018a). In 2018, 8% of boys and 18% of girls faced sexual harassment worldwide (World Health Organization [WHO], 2020).

WHO defines child sexual abuse as “the involvement of a child in sexual activity that he or she does not fully comprehend, is unable to give informed consent to, or for which the child is not developmentally prepared, or elsewhere that violates the laws or social taboos of society” (WHO, 2020). Although child abuse exists in Pakistan, it is still a taboo subject. For example, Pakistani society accepts talking about sex in general, but talking about child sexual abuse is immoral (Avais et al., 2020). According to Khan et al. (2014), child sexual abuse is a matter of explicit infringement on children and is rooted in society. It is one of the most sensitive sociocultural issues today, with cases remaining unreported, unsupported, and underrepresented. Child sexual abuse causes serious physical, mental, and emotional issues as children are immature

and unprepared for such abuse. In 2015, a massive child sexual abuse scandal came into focus, involving more than 300 children who were sexually abused on camera with video clips shared widely across the country. Most victims were under 15 years old, with thousands of videos including scenes of 14-year-olds raping six-year-olds.

Salman (2017) confirmed that, in Pakistan, children are abused almost everywhere, with many cases of families neglecting to hear complaints and failing to confront child sexual exploitation for many years. In 2018, seven-year-old Zainab Ansari was found dead in a garbage heap. After the autopsy, her rape was confirmed, leading to a massive reaction in the media. However, despite this huge reaction against the sexual molestation and murder of Zainab Ansari, child sexual exploitation is still increasing rapidly. In May 2019, 10-year-old Ferishta was abducted after going to play outside, and her burnt body was later found. Again, the autopsy report revealed sexual molestation, but still, the molesters have not been found. More than 1,304 children have faced sexual molestation in Pakistan during the past six months, including 729 girls and 575 boys (IANS, 2019).

In 2011, for example, around 50 Pakistani police officials were perpetrators of child sexual abuse in Pakistan, as reported by Avais et al. (Avais et al., 2020). In 2019, 2,846 cases of child sexual abuse in Pakistan were reported by Sahill (2020), and 3,832 cases were reported in 2020 (Tahir, 2021). Avais et al. (2020, p. 215) indicated that children in Pakistan are exposed to sexual abuse everywhere, “even in their own

homes,” suggesting that government, civil society, and religious leaders are responsible for recognizing such matters as a major threat to the fabric of society.

Factors Leading to Child Sexual Abuse

While discussing the role of media in disseminating awareness of child sexual abuse, it is crucial to highlight the alleged motives behind such abuse. Child sexual abuse involves different sexual activities. Some offenders restrain their conduct from masturbating openly in front of children or undressing them. Others, however, tend to perform oral sex or genital intercourse. An early common view of sexual molesters of children was that they were “born that way.” Many assumed this was because of a psychological disorder, with people believing that the abuse was a matter of choice by the perpetrators (Abbas & Jabeen, 2021; Richards, 2011). However, many people proposed several other factors behind child sex abuse, suggesting that pedophilia is an innate orientation and that much abuse was simply opportunistic (Ali, 2019).

Psychologically, there are mainly two types of child sex abusers: one group sexually abuses a child in their fantasies, while the other performs abuse in reality in order to satisfy their sexual needs (Tenbergen et al., 2015). Khalid and Yousaf (2018, p. 2471) state pedophilia “is mental ataxia and psychotic anarchy associated with a more sexual interest in prepubescent children.” It is directly linked with the frontal lobes, amygdala, and hippocampus, causing anti-social and extremely violent behavior.

Likewise, studies have considered the environmental reasons for sexual attraction toward children. For example, it is a common notion that individuals who have confronted sexual abuse during their childhood tend to adopt such behavior (Stines, 2015). Furthermore, child sexual abuse is more common in many developing countries, including Pakistan. As people confront extreme poverty, child abuse is a million-dollar business. As a result, families themselves prepare their children to be sexually abused on camera (Ali, 2019). They sell this pornographic content and help organize the mafia behind child sexual abuse (Ali, 2019). For example, the Federal Intelligence Agency (FIA) of Pakistan has claimed that child pornography is a business. There is an endless trail of such crimes, and many perpetrators face court trials (Abbas & Jabeen, 2021; Döring & Walter, 2020).

Poverty and economic factors are responsible for the growth of child sexual abuse in Pakistan (Syed, 2019). Similarly, according to Ali et al. (2020) and Hall and Hall (2011), the “abused abuser” is a high-perception phenomenon. Researchers claim that people who get abused during childhood want to gain self-esteem and confidence. To attain these, they sexually abuse other children (Stines, 2015).

Newspapers’ Framing of Child Sexual Abuse in Pakistan

The media usually play a key role in defining social problems by emphasizing a particular aspect of an event, e.g., child sexual abuse. Therefore, any society needs to follow

ethical guidelines in publishing and publicly to discuss such topics. Although such reports and coverage help to break the silence around child abuse, it remains a very sensitive matter for much of society (Tahir, 2021). The media can help empower the public by providing information about their basic rights and obligations. However, they cover only a tiny percentage of child abuse and neglect issues. For example, the Islamabad newspaper, Azad Kashmir, and the Gilgit Baltistan newspaper reported 2322 child sexual molestation from January to June 2018 (Wasif, 2018). Of these cases, 65% were from Punjab, 25% from Sindh, 3% from Khyber Pakhtun Kha and Islamabad, and 2% from Gilgit Baltistan. Table 1 summarizes the most reported child sexual abuse issues in two popular areas in Pakistan between 2016 and 2019.

Table 1
Reported total of child sexual abuse issues in Pakistani newspapers

Year	Reported cases in	
	Punjab	Lahore
2016	2676	266
2017	2168	112
2018	2403	148
2019	1502	98

Source: Tahir (2021)

Notably, 74% of cases were from rural areas as opposed to urban areas (26 %). Such reports have become a very serious concern in Pakistan, as sexual exploitation continues to lead to brutal murders (W. Shah, 2018). However, cases of acquaintance rape are also rapidly increasing in number. Child sexual abuse reports from 2017 revealed

that 1,787 cases of child sexual abuse in Pakistan were of acquaintance rape (Avais et al., 2020; Imdad, 2019). Several newspapers in Pakistan have disclosed the names of the victims of sex crimes, although it is illegal to do so (Tahir, 2021). Such reports are mainly due to a lack of training and understanding of the legislation. Therefore, we propose the following hypothesis:

H1: Newspapers in Pakistan significantly follow ethical guidelines in publishing child sexual abuse news reports.

METHODS

Content analysis was used to investigate whether the selected newspapers follow ethical guidelines in reporting child sexual abuse in Pakistan. It is an exploratory study of three prominent Pakistani newspapers: The Daily Jang, The Daily Duniya, and The Daily Ausaf. We purposely selected the most prominent national newspapers in Pakistan because these are the independent newspapers with the highest circulation. However, in terms of data gathering and other limitations, we used a purposive sampling technique depending mainly upon the language used by the newspapers, Urdu, as this is the national language of Pakistan.

For the second step, the study developed the initial codebook prior to beginning to conduct the data analysis (Kyngas & Vanhanen, 1999). Kyngas and Vanhanen (1999) further state that as analysis of the data proceeds, additional codes are developed, and the initial codebook is refined. This technique can also be applied

to broader scientific research disciplines because it is designated to determine the systematic characterization of a message.

For the third step, we collected all the news reports and stories related to child sexual abuse for seven months, from January 1 to July 20, 2019. This collection period was important because it witnessed ongoing media reports of child sexual abuse in Pakistan (Mehkar, 2019; Mehnaz, 2018; Salman, 2017; Weatherred, 2017), especially after Zainab Ansari was murdered and during Ferishta's reported case. In addition, all the news articles published in the selected newspapers were collected, thus allowing us to capture 87 stories.

Keywords related to child sexual abuse were identified to filter out relevant stories. These words were mainly: "child abuse," "sexual abuse," "child neglect," and "child sexuality" and were used to search through the selected articles. After that, we filtered out any article that did not directly mention the seven ethical reports below. At the end of this process, 64 were found to be related to news of child sexual abuse issues. These articles were then retained for further analysis.

Coding Process

All the 87 news articles were coded, with the unit of analysis being a single news story. A detailed set of categories was developed for the quantitative analysis based on relevant literature and the current context (Fahmy et al., 2022). After the data-gathering process, we assigned codes for data-manipulation

purposes. For example, if the news story contained certain information regarding child abuse, it was coded (1); if not, it was coded (0). This coding technique was applied to different “levels of abstract” as data is converted into quantities for statistical analysis (Assarroudi et al., 2018). The content analysis included all the news reports covering child sexual exploitation, including relevant news reports published during the selected time.

Categories

The study operationalized the term “ethical reporting” under the seven categories proposed by UNICEF, the National Children’s Advocacy Center, and others (Frederick, 2010). Frames, in terms of ethical guidelines regarding child sexual abuse reporting, were measured for the following categories (unit of analysis):

1. Sensationalism
2. Helpline details
3. Identifying the victims
4. Identifying the perpetrator
5. Gender-sensitive code of ethics
6. Reporting language
7. Victim’s photographs

Reliability Analysis

Furthermore, to examine the intercoder reliability of the coding technique, one of the authors, proficient in Urdu and English, completed the coding of the 87 news articles. A second person randomly coded a selected subset of 11.5% of the entire sample (10 articles). We conducted intercoder reliability analysis using Krippendorff’s

Alpha technique with satisfying results for percentage agreement ($\alpha \geq .800$). Therefore, with α having a value of .714, the study affirmed that the coding technique was reliable.

RESULTS

This study aimed to examine whether the selected newspapers followed ethical guidelines in reporting child sexual abuse in Pakistan. First, the data were measured to determine whether they were drawn from a normally distributed population of Pakistani newspapers. In doing so, a Gaussian test indicated that the data were normally distributed. Figure 1 exhibits the normal curve distribution of the data.

The results further revealed that the Daily Ausaf newspaper led the coverage of child sexual abuse issues by publishing ($n=24$ or 37.5%) news reports, followed by the Daily Jang newspaper ($n=22$ or 34.3%), and the Daily Duniya newspaper ($n=18$ or 28.1%). Thus, the accumulative frequency ($n=64$) ($M=203$, $SD=.854$) of published news reports in all the selected newspapers

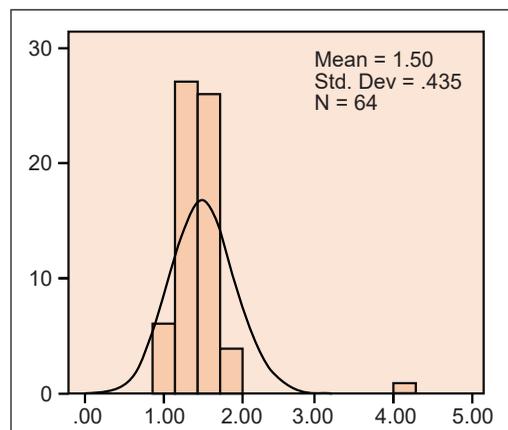


Figure 1. Gaussian distribution of the study data

depicts the higher prevalence of the issues and the news media’s focus on publishing these incidents. Table 2 summarizes the descriptive statistics of the coding unit. The result affirmed a strong relationship between the selected newspaper reports and Pakistan’s awareness of child sexual abuse.

A Pearson correlation analysis was run (as shown in Table 3) to test the relationship between the ethical guidelines regarding child sexual abuse mentioned above, and this revealed a significant relationship between newspapers and positive conduct in publishing child sexual abuse reports, with the correlation value at $r = .203$ and the significance value at $p > 0.013$. This result indicates that, overall, newspapers’ conduct

concerning child abuse awareness is positive, judiciously spreading consciousness of the incidents, and thus our hypothesis was supported.

Furthermore, regarding child sexual abuse issues, the study found that the selected newspapers embraced positive conduct and highlighted the issue. For example, they guaranteed the victims’ safety, avoiding sensationalism and other related concerns. However, comparing the Daily Jang newspaper and the Daily Duniya newspaper, the Daily Ausaf has analogously shown more positive and effective conduct in publishing child sexual abuse reports. As shown in Table 4, the correlation between newspaper reports, sensationalism ($p > 0.185$), helpline ($p > .0713$), victims’ identity ($p > 0.391$), perpetrators’ identity ($p > 0.623$), gender-sensitive ethics ($p >$

Table 2
Descriptive statistics for the mean and standard deviation

Variable	M	SD
1. Sensationalism	1.52	.504
2. Helpline details	1.53	.503
3. Victim’s identity	1.94	2.593
4. Perpetrator’s identity	1.17	.380
5. Gender-sensitive code of ethics	1.50	.504
6. Language/words	1.17	.380
7. Photos	1.17	.380

Table 3
Pearson correlation analysis results

Correlations			
	Newspaper		Code of Ethics
Newspaper	Pearson correlation	1	.203
	Sig. (2-tailed)		.013
	N		64

Table 4
Correlation between and within test subjects (code of ethics)

Source	Items	Type III Sum of Squares	df	Mean Square	F	Sig.
Newspaper	Sensationalism	0.104	2	0.052	1.733	0.185
	Helpline	0.101	2	0.050	0.340	0.713
	Victims	0.030	2	0.015	0.953	0.391
	Perpetrator	0.150	2	0.075	0.477	0.623
	Ethics	0.030	2	0.015	0.953	0.391
	Language/words	0.359	2	0.180	4.384	0.017
	Photographs	0.030	2	0.015	0.953	0.391

0391), and photographs ($p > 0.391$) all remained insignificant, indicating that the overall reporting patterns remained positive. However, only one item, “language/words,” was significant, indicating that the selected newspapers differed in the language/words they used to highlight and present their sexual abuse coverage. Such findings suggested the need for further studies examining the language used to cover such subjects.

Furthermore, cross-tabulation validated the research hypothesis on whether the selected newspapers followed ethical guidelines in reporting child sexual abuse issues. Thus, the results explicated ethical coverage in relation to child sexual abuse reports. These results are briefly discussed below:

Sensationalism in the news refers to presenting a story that may represent editorial prejudice and grave manipulation of the facts (Arbaoui et al., 2020). Playing with audience emotions and fostering resentment, disgust, and grief are attributed to sensationalist media reporting. Journalists often utilize subtle and obvious ways to gain audiences’ attention. It leads to the public misperceiving the reported incident and the individuals involved in the crime (Grundlingh, 2017). However, the findings revealed that $n = 31$ or 48.4% of our selected newspapers were found to have zero sensationalism in the language, with the reporting style also found to be appropriate and relevant.

In regard to **helpline details**, news media can provide these details of helplines and support centers. They can also help to

break down the myth that the victim alone has to suffer within his / her family. By providing important helpline details, the media ensure support and protection for the victimized child (Tahir, 2021). The study found that an average number of newspaper reports ($n = 30$ or 46.9%) had details of helplines that could aid victims in the report and finding the criminals, counteracting the abuse, and providing medical surveillance of the victims.

In response to the **victim’s identity**, it is clearly stated in section 8 of the code that “no report in newspapers and magazines would be allowed to disclose the victim’s identity.” This identity may include the victim’s name, school, or any other particular that could put him/her at risk (Shah, 2018). The study found that $n = 40$ or 62.5% of analyzed newspaper reports mentioned details concerning victims and their families. Therefore, it implies that exposing the victim’s identity is a weak factor in the conduct of newspapers and the media.

Similarly, revealing the **perpetrator’s identity** is fundamental in exposing the alleged offenders (Betus et al., 2020). Our results revealed that $n = 53$ or 82.8% of analyzed newspaper reports explicitly involved all relevant identities of the perpetrators, including names and occupations (Abbas & Jabeen, 2021).

Furthermore, in response to the **gender-sensitive code of ethics** to which all the newspaper organizations are signed up (Raza & Khan, 2017), it is known that organizations under these principles are

bound to abide by the laws in respect of guarding females' identities, their gender identification, their consent regarding granting interviews and taking pictures, and other factors. As a result, journalists are restricted in exaggerating or oversimplifying incidents involving female children and women (Smith, 2012). In this context, our analyzed data revealed that some ($n = 32$ or 50.0%) newspaper stories indicated that there was no violation of the gender-sensitive code of ethics, meaning that ($n = 32$ or 50%) of reports were found to be explicit violations of the gender-sensitive code of ethics.

If improperly used, *language/words* can adversely affect victims. It is fully applicable to media reporting concerning child sexual abuse. Reports should not contain words such as "teens," "nippers," "juveniles," and "minklins" (UNICEF, 2018b). The analyzed data found that $n = 23$ or 35.9% of newspaper reports featured words such as "teens" and "nippers." According to UNICEF (2018a), using these words might be patronizing and offensive to the victims

Lastly, our analyzed data revealed that only $n = 11$ or 17.1% of newspaper reports had *photographs/pictures* of incidents, victims, or their families (Raza & Khan, 2017). These pictures were not obscured; rather, they explicitly identified the faces of the victims and their relatives. However, several news stories ($n = 53$ or 82.8%) did not have any graphic depictions of the respective incidents or the victims.

DISCUSSIONS

Child sexual abuse is growing into a common topic in middle society, both in urban and rural areas (Tahir, 2021). Mainstream media outlets can educate the public about such abuse if they consider it part of their agenda and priorities. In terms of knowledge of sexual and child abuse matters in most societies, the print media (newspapers) play a vital role. They can help to document, and spread awareness of, most issues in any society because they can reach large audiences and even target anti-social groups. Furthermore, due to ease of access, it is convenient for them to deliver awareness and support to the victims through such platforms (Vilvaraj, 2017). This study's data showed that the selected newspapers followed ethical guidelines in reporting child sexual abuse, supporting our hypothesis.

As the hypothesized newspapers in Pakistan significantly follow ethical guidelines in publishing reports of child sexual abuse, we found that the selected newspapers somehow followed ethical guidelines in reporting child sexual abuse issues. Also, the news coverage highlights details of support centers where victims can seek help and guidance. In this regard, journalism ethics are important in the media enjoying their freedom of expression (Döring & Walter, 2020). Moreover, ethical journalism not only helps the media to protect their stability but is also used to secure people's trust in the media (Chiyamwaka, 2008).

In particular, details relating to child sexual abuse, victim's identity, judgmental language, attribution to a particular race/ethnicity, and other ethical issues should be kept confidential. Child protection is the priority for any media professional, and ethics are very important (Jabeen, 2020). Following ethical guidelines is important in Pakistani society as this ensures that victims are protected and honored and highlights the growing pervasiveness of child sexual abuse (Mehkar, 2019).

There are many examples of the vital role played by newspapers in reporting such matters. For example, they can increase awareness of child abuse and children's-rights advocacy in general. In this regard, the mainstream media have always helped raise public awareness about child sexual abuse (Döring & Walter, 2020). Lonne and Parton (2014) stated that the media play a very important role in highlighting child maltreatment cases, eventually leading to a high level of awareness. It is always important to consider certain ethical guidelines while reporting an incident (Ali et al., 2020; UNICEF, 2018b).

Although the results affirmed the notion of ethical conduct concerning news media reporting in Pakistan, the study found a smaller number of news stories having been sensationalized in the selected newspapers. It may be because sensationalized rape stories are not merely poor reporting examples but also an alarm call in terms of media critiques and social activities (Rekdal, 2017). Therefore, the overall role of newspapers in reporting child sexual

abuse cases is positive (Goodman et al., 2020). Also, the publication of $n = 64$ cases within six months shows that newspapers are highly concerned about child welfare in Pakistan. Nevertheless, on the other hand, it all illustrates the growing prevalence of child abuse, which is thought-provoking for the concerned bodies.

Furthermore, the assumption here is that newspapers are vital in highlighting Pakistan's social issues (e.g., child abuse). They allow their readers to communicate and share their feedback (Tahir, 2021). According to Shah (2010), newspapers in Pakistan absorb a large proportion of the public's attention. They focus more on domestic issues, and child sexual abuse is of greater significance. For example, ethical ways of representing relevant cases in the media provide a fair sense of the problem in Pakistan society (Khalid & Yousaf, 2018).

In this regard, the media can also educate children about how to tackle an abusive situation, and perhaps children can also learn about the magnitude of their rights (Saunders & Goddard, 2002). The media's role in protecting children's rights in general and disseminating awareness of child sexual exploitation has the potential to bring about a positive societal change (Agboola, 2020; Jabeen, 2020).

Media strategies could try altering the public opinion toward child sexual exploitation by informing about child abuse. A sensible approach to spreading awareness about child abuse weighs much due to its potential outcomes (Weatherred, 2017). Newspapers play their part by recognizing

child abuse as a major social concern. They also can increase awareness and motivate people to act against such abuse. For this reason, newspapers can influence people's perceptions about such matters and help them look at their behaviors (Bendo & Mitchell, 2017).

To a great extent, sporadic media campaigns can help to increase community knowledge about tackling such situations effectively. They help alter people's attitudes, thereby counteracting child sexual abuse in society (Saunders & Goddard, 2002). Efforts made by the media have positively influenced law-making bodies regarding children's-rights preservation policies and political responses on a broader level (Bendo & Mitchell, 2017). Media campaigns also help encourage people to stand against injustice by spreading awareness that child sexual abuse is an infringement of human rights (Agboola, 2020; Saint-Jacques et al., 2012).

CONCLUSION

Despite the increasing prevalence of child sexual abuse in Pakistan, few studies are probing this phenomenon. This study attempted to understand the role of newspapers in disseminating awareness of child sexual abuse. It used a content analysis technique to scrutinize three major newspapers in Pakistan over seven months. Analyzing the newspapers' reporting under the guidelines proposed by UNICEF (e.g., sensationalism, helpline, identifying the victims and perpetrator, gender-sensitive ethical code, reporting language, and

victim's photographs) was important as these were used to determine the frequency of relevant news reports and to scrutinize the extent to which this reporting could be attributed to ethical conduct.

Our results revealed a positive role played by newspapers concerning child sexual abuse reports based on the seven proposed categories, as the duty of newspapers is to take rational steps to promote public welfare (Saint-Jacques et al., 2012). Furthermore, this study reveals how Pakistani newspapers follow ethical guidelines in reporting child sexual abuse. Therefore, the assumption is that if newspapers ensure that they follow the code of ethics in reporting such matters, it not only will help with the preservation of children's rights but will also keep people aware of the prevalence of child sexual exploitation, especially if they can get the attention of local governments and authorities (Rahim et al., 2021).

Implications

The growing prevalence of child sexual abuse in Pakistan is a critical phenomenon. This paper offers several implications for such a matter in Pakistan. In this regard, the Pakistani media should initiate more child-abuse campaigns, targeting different social activists and the public, as well as updating the audience about the menace of child sexual abuse, its social indicators, and the prevention of child molestation (Khalid & Yousaf, 2018). The role of newspapers can also include demands for the judicial system to propose new laws against child

sexual abuse. Judicial reforms and new laws against pedophilia in Pakistan are of great significance. However, the slow procedure of trials and an ineffective judicial system have made it hard for justice to be served (Mehkar, 2019). The media are rightly called the eyes of society as they can pressure local authorities to take action against any injustice to the common person (Abbas & Jabeen, 2021; Rahim et al., 2021).

Limitations and Future Research

This study was administered over a limited period with restricted resources. Moreover, very limited data concerning the growing prevalence of child abuse in Pakistan were obtained. So it is because child sexual abuse cases are briskly increasing, but very little attention is given to this issue for research purposes. However, with the growing pervasiveness of child sexual abuse, many facets should be scrutinized; in particular, child pornography is one of the highly prevalent infringements of children's rights in Pakistan that should be discussed on a broader level.

However, our study prudently analyzed selected newspapers, and the results are drawn accordingly. Therefore, child sexual abuse and its other facets should be investigated in Pakistan to ensure improved public understanding of the issue, and that could contribute to easing the suffering of Pakistani children. Furthermore, based on our existing results, there is always scope for conducting longitudinal research to provide more insight into how the news media report on this sensitive topic in their daily coverage.

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Politicizing the Pandemic: COVID-19 and its Impact on the Nigerian Economy

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ABSTRACT

This study aims to examine the connection between international politics that characterized the outbreak of COVID-19, mainly between the United States of America and China and the devastating impact of the second wave outbreak on the Nigerian economy. At the initial stage of the pandemic on the Chinese mainland, the economy of China experienced a significant decline. The efficacy of China's response to COVID-19 led to a fractional economic recovery during the pandemic. However, the internationalization of COVID-19 was greeted with a second wave in most advanced countries, such as the United States of America, Italy, and the United Kingdom, among others. The low level of preparedness and poor responses were comparably low in second-wave countries compared to China. It also examines the failure of the United States of America and China to develop a global health framework against COVID-19, as well as the Blame Game Politics that eventually played out. The politics of shifting blame between the United States of America and China, coupled with poor responses against COVID-19 in most Western countries, culminated

in a devastating outbreak in low-income countries. Nigeria's COVID-19 experience severely affected the critical sectors of the economy. However, this awkward situation has heightened Nigeria's status as a major economic victim of the pandemic in Africa. The study utilized primary and secondary sources of data. The primary data were generated through the utility of Key Informant Interviews (KIIs), and

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the secondary data were generated from textbooks, journal articles, and web-based materials. The data generated were analyzed using the logic induction method and thematic analysis. The study recommends rejigging the Nigerian economic framework and improving revenues through an Agro-based economy.

Keywords: China, COVID-19, economy, international politics, Nigeria, pandemic, politicizing, United States of America

INTRODUCTION

The outbreak of COVID-19 in China was initially considered a Chinese affair until the declaration of COVID-19 by the World Health Organization (WHO) as a global pandemic. The declaration and internationalization of the virus caught the international community unaware, coupled with the low level of preparedness and international politics that crippled the global responses against the pandemic. The global health emergency caused by COVID-19 also triggered ideological rivalries between the two dominant economic powers, the United States of America and China. As a result, the focus shifted from global health frameworks to modern tragedies that characterized the international politics of COVID-19. African countries were eventually enmeshed in the devastating outbreak of COVID-19 because of the failure of superpowers to stem the tide at the initial stage of the second wave. The dreadful outbreaks of COVID-19 in Nigeria and several other African countries were not unconnected with the gratuitous

international politics that characterized the first and second waves. Nigeria, Africa's biggest market, by a considerable margin, became a victim of the COVID-19 outbreak amid the bipolar international politics of the pandemic.

Worse still, President, Donald Trump, initiated a process of halting America's funds to the WHO during the COVID-19 global emergency. Despite being the largest contributor to the WHO, the aborted move by President Trump could create unprecedented catastrophes in the global health sector. The United States of America has long been one of the largest financial supporters of the WHO. This organization has leveraged its potential on the United States' support to provide succors for Nigeria and other low-income countries. Prior to the outbreak of COVID-19, the WHO had assisted the world's most vulnerable countries in eradicating smallpox and controlling and preventing the spread of polio, malaria, HIV, and other diseases. Colarossi (2020) pointed out that the allegation against the WHO as being too lenient with China reflected the political game. Therefore, the expectations from Nigeria and other low-income countries during the second wave of COVID-19 were unpromising when the United States of America initiated the process of pulling out from the specialized agency of the United Nations.

Before the new president of the United States of America, Joe Biden rescinded Trump's policy against WHO, many things had played out in Nigeria and other low-income countries, as most of the index

cases in African countries were traced to the second wave of the pandemic. The Nigerian index case was confirmed on February 25, 2020, through an Italian citizen who returned to Nigeria from Italy to resume business. Apart from the international politics that escalated the global spread of COVID-19, the economic strength of China and the influx of Chinese expatriates around the world also contributed immensely to the internationalization of COVID-19 beyond Asia. As of 2019, there were 12,199 Chinese workers in Nigeria (China-African Research Initiative, 2021). The 2020 global economic statistics categorized China as a foreign reserve champion with a foreign reserve of \$3.3 trillion (Slotta, 2022). China is one of the world's major economic hubs, with the highest GDP after the United States of America. However, the GDP in the world's second-largest economy fell by 6.8 percent in January-March, coupled with the decline in the global demand for its products due to the effect of the outbreak on economies around the world (Li, 2020).

The initial containment measures adopted in China as a Sino response to COVID-19 had a profound impact on China's economy. Apart from the cost of managing the pandemic, some critical sectors were closed in China. As a result, China's economy contracted in the first quarter of 2020, the first time since 1992 (Rosamond, 2020). The International Monetary Fund also affirmed that Asian economies had a high tendency to experience zero growth for the first time in six decades. National lockdowns across the regions

made some critical sectors, such as airlines, factories, shops, and restaurants, suffer the greatest economic setback (Walker, 2020). For example, in the United States of America, over 40 million Americans applied for unemployment claims within a few weeks of the COVID-19 outbreak, coupled with the stern lockdown across the country (World Economic Forum, 2020). Conversely, during the second wave, the United Kingdom warned that the economy could shrink by 35 percent with a prolonged lockdown in the country (Artkinson, 2020). For example, in Denmark, only Companies registered in tax havens were disqualified from accessing financial aid. In Latin American countries, Brazil, Peru, and Chile are the hard-hit countries in the region, with plummeting economies and serious financial crises coupled with historical oil collapse plunging the region into its rerecord-breaking recession.

Contrarily, the African continent was the annex of the second wave outbreak and the major economic victim of COVID-19. The extant fragile economies operating before the outbreak were largely responsible for the magnitude of economic distress evident during the outbreak in Africa. Most African countries battled with their fragile economies during the protracted second wave of COVID-19. It indicated that COVID-19 could push most African countries to the brink of starvation. Africa, as the dropping ocean of hunger, recorded more than 874 000 cases of COVID-19, with 18,498 deaths across the continent and 524,557 recoveries as of early August

2020 (Shaban, 2020). Corroborating the economic impact of COVID-19 on Africa, the World Bank affirmed that most countries in Africa were more vulnerable, with a strong tendency to slip into long-term economic recession. It was projected that more than 50 percent of African workers were at risk of layoffs during the protracted second wave of the pandemic (The World Bank, 2020).

The global oil markets determining the economic sustainability of most oil-producing countries in Africa confronted a serious decline in oil prices. The inability of OPEC to compromise on daily production cuts as a response to the global pandemic led to serious instability in oil prices. In addition, the Saudi Arabia-Russia price war had an adverse effect on the stability of oil prices to worsen the situation. In an attempt to pull out of the economic quandaries, over 40 African countries applied for emergency facilities from the International Monetary Fund to cushion the economic effect of the protracted second wave. Considering the peculiar nature of the COVID-19 outbreak and its devastating impact on the global economy, it has become imperative to examine how the international politics between the United States of America and China escalated the global spread of COVID-19. The study also examines the bipolar international politics of COVID-19 as a precipitating factor that led to the devastating outbreak in Nigeria and other low-income countries. Similarly, it examines the impact of COVID-19 on the Nigerian economy. The study draws critical

lessons for Nigeria's budget economy, which has been confronted with a fiscal crisis, with her crude oil selling for less than half of the budget benchmark during the protracted second wave. As a result, the Nigerian government was tempted to slash its budget and dipped into stabilization savings at the Sovereign Wealth Fund Authority to augment federation allocations, while the excess crude account had a balance of less than \$100 million as of April 2020 (Adebulu, 2020).

Theoretical Approaches and Conceptual Models to the Study of COVID-19

The devastating outbreak of COVID-19 has generated several contending theoretical postulations in the extant literature of virology and social sciences, which are aimed at providing academic illumination on the causes of COVID-19 and the magnitude of its impact on the global economy. Despite the rerecord-breaking tension of COVID-19 and its novelty, scholars have looked at the newness of COVID-19 from different perspectives. The causes of COVID-19 have generated high-profile debates among virologists and scientists on a global scale. From the standpoint of COVID-19 origin, the animal source was initially considered the major cause before the claim was discredited when the pandemic became more internationalized.

Also, the virus was said to have originated in a low-grade virology laboratory as an instrument of warfare. The epidemiology of COVID-19 has birthed crops of contested theories with different lines of argument. The

inability of epidemiologists to disentangle the major cause created pandemonium in different countries. The situation led to the prolonged lockdown of countries across the globe. While predicting the cause of an epidemic is often difficult, predicting the cause of a pandemic from a novel and emerging virus is even more (Mangiarotti et al., 2020). The validity and reliability of most predictive models relied on numerous parameters involving biological and social characteristics with a high level of uncertainties. From the stance of the Zoonotic model, COVID-19 has revalidated the link between human health and environmental health. As pointed out by the United Nations Environmental Program, with few exceptions, without animal-to-human transmission, the current SARS-CoV-2 virus would not have presented itself in the form of COVID-19 (UNEP, 2021). Corroborating the Zoonotic model, computational models, cell studies, and animal experiments were deployed to pinpoint the viral host that kicked off the pandemic. Lucy van Drop (2020) observes:

There is strong evidence that the virus originated in bats, the biggest mystery remains how it got from bats to people. Researchers first started looking at the virus' genome to see whether they could match it to pathogens found in other animals. In late January 2020, a few weeks after researchers sequenced the SAR-CoV-2 genome, scientists at the Wuhan Institute of Virology posted online the sequence of a

Corona virus that had been stored in their lab since being discovered in intermediate horseshoes bat; researchers overwhelmingly think that it was a wild virus, which probably passed to people through an intermediate species. But no one has found the virus in the wild yet. In Yunnan province in 2013, that genome, named RATGI3, was 96% identical to SARS-CoV-2, making it the closest known relative and strongly suggesting the new virus originated in bats. (cited in Smriti, 2020)

The United Nations Environmental program took a similar direction. It conceptualized COVID-19 as a zoonotic disease with the tendency of animals to humans transmission with significant threats to human health. Apart from COVID-19, there are documented zoonotic diseases ranging from the acute respiratory syndrome or SAR (2002); Avian influenza or bird flu (2004); H1N1 or Swine Flu (2009); Middle East Respiratory Syndrome or MERS (2012); Ebola (2014–2015); Zika virus (2015–2016) to the West Nile virus (2019) (UNEP, 2016). Gebreyes et al. (2014) stated that the global trend of zoonotic disease outbreaks is alarming. According to them, the 2016 UNEP reports flagged the disease as a global emergency when on average, three new infectious diseases emerge in humans every year, and 75 percent of all emerging infectious diseases in humans are zoonotic.

However, the internationalization of COVID-19 was greeted with numerous controversial theories. Conspiracy theory and several other theories were deployed to explain the internationalization of COVID-19 as biowarfare developed by the Chinese government to decline the hegemonic power of the United States of America. Another version of the theory appears to have attributed the COVID-19 outbreak to Bill Gates' strategic plan to roll out vaccinations with tracking chips that will require 5G activation, the technology used by cellular networks (Evstatieva, 2020). During the bewilderment that greeted the outbreak of COVID-19, Conspiracy theory became a prominent theory on social media without any scientific evidence. A credible online survey of about 2,500 people found that 25 percent either showed a consistent pattern or a very high level of endorsing conspiracy thinking about the novel Coronavirus (Brian, 2020). Despite the potency of all the emerging theories, the causes of COVID-19 have not been scientifically institutionalized apart from the Zoonotic model. The internationalization of COVID-19 and its geometric dimension were validation of the potency of penetrative and reactive variants of the linkage theory of international relations, and linkage theory emphasizes the link between external and domestic environments (Arthur, 1980).

Penetrative Linkage is one in which one polity serves as a participant in the political processes of another and shares the authority to allocate values within the penetrated units, or when

an outside polity influences domestic elites in decision-making, the process is called penetrative, while reactive linkage is what is caused by boundary, crossing reactions without direct foreign participation in the decisions made within the unit or when the actors who initiate the output do not participate in the allocative activities of those who experience the input process. (Rosenau, 1969)

The geometric spread of COVID-19 was leveraged from the standpoint of a penetrative and reactive linkage system of international politics. Despite its origin in China, the virus became a global pandemic within three months of the initial outbreak because one polity served as a participant in the political process of others, coupled with boundary-crossing reactions. The failure of the world figureheads to realize the linkage dimension of the pandemic led to the internationalization of COVID-19; without the practice of penetrative and reactive linkage systems upon which inter-state relations are constructed; the geometric spread of COVID-19 would have survived as a Chinese affair at the best-case scenario or an Asian affair at the worst-case scenario.

However, the economic downturn of the pandemic has not received institutionalized theoretical frameworks in the extant literature, despite the paucity of literature on the economic dimension of the pandemic. Catro (2020) studies the effects of the United States of America COVID-19 outbreak and the subsequent fiscal stimulus using

a stochastic general equilibrium model. It was then observed that the pandemic had caused a 40 percent drop in employment in the services sector and a 15 percent contraction in GDP during the first three months of the pandemic, coupled with a slow recovery. Beyond the modeling literature, other empirical studies tend to determine the real-time effects of the COVID-19 pandemic. Barro et al. (2020) utilized data from the 1918 influenza pandemic as a major basis for comparison with the COVID-19 pandemic. The studies measure the macroeconomic impacts of the 1918 influenza outbreak and the impact of local government intervention. They observe that the 1918 influenza pandemic significantly decreased economic outputs at that time and quickly enacted, and long-lasting containment measures improved long-run output and employment. In the contemporary experience of COVID-19, Fang et al. (2020) seek to understand the efficacy of social distancing measures using data from the United States of America and China. It was concluded that social distancing and lockdown significantly reduced the spread of COVID-19. Bick and Blandin (2020) and Mongey and Weinberg (2020) concertedly examined the heterogeneous effects of social distancing measures on some selected workers in the USA, and it was concluded that less educated and less wealthy workers are more likely to hold jobs that do not allow for remote work

However, as the outbreak of COVID-19 continues unabated and its mutation, the

global community, has looked beyond the use of face masks and social distancing measures with the production of vaccines as a long-lasting remedy against the spread of COVID-19. Despite the production of vaccines in some countries across the globe, the world has been enmeshed in a serious vaccine shortage coupled with vaccine diplomacy that has become a potent tool for developed countries to garner international influence. The international politics that characterized the outbreak of COVID-19 had an overflow effect on the production of vaccines as the global vaccination drive is flooded with unwarranted global politics. As pointed out by *Science* magazine, nearly 85 percent of total doses administered till May 25, 2021, have gone to rich and middle-income countries as the gap between developed countries and low-income countries widens daily (Arun, 2021). International politics have crippled COVAX- a global initiative to create a common pool of vaccines from which all countries alike were to be apportioned their shares through an advanced Market framework.

The vaccine supplies coalesce; the Western countries produce the majority of vaccines such as AstraZeneca, Pfizer, Johnson and Johnson Covid-19. While India and Russia are scrambling to scale up their productions, the efficacy of Chinese vaccines (Coronavac and Sinopharm vaccines) has attracted mixed reactions from different quarters. Despite the criticism that characterized the efficiency of Coronavac and Sinopharm, China and Russia have significantly rolled out their vaccines in

low-income countries to establish their soft power. The international rivalries that characterized the global vaccination drive have plunged low-income countries into another stage of a health crisis. Most low-income countries have become victims of vaccine diplomacy amid the fourth wave. The Nigerian government has only vaccinated a small fraction of its population, majorly with AstraZeneca, without crediting Coronavac and Sinopharm. The recent outbreak of Omicron, designated as variant B.1.1.529 by the WHO and Delta variant, has exposed the weak spot of the international community in the global vaccination drive. UNICEF (2021) pointed out that unvaccinated people are more susceptible to Omicron and Delta variants. From the perspective of the Chairman of the Expert Review Committee on COVID-19 in Nigeria, the name Demicron is a combination of Delta and Omicron variants, which implies that when a person is infected with the Delta and Omicron variants at the same time, it leads to double-infection called Demicron (Miller, 2022). Demicron was originally discovered in India through a genomic sequence. The booster versions of Western vaccines that have been synchronized to prevent the spread of new variants were insufficient in Nigeria, and most African countries as the global community grappled with the fourth wave.

MATERIALS AND METHODS

This research is exploratory. The study employed primary and secondary data. The primary data were generated from the

key informant interviews (KIIs). The study adopted two genres of non-probability sampling methods, such as accidental and snowball sampling techniques. The accidental or Convenience sampling technique involves collecting data based on easy accessibility and convenience. This method was adopted to select relevant interviewees germane to the study. The Snowball sampling method was adopted to draw experts from government agencies and other notable international bodies. However, there is no mathematical modus for determining the sample sizes for the Key Informant Interviews. The debate among scholars on the ideal number of interviews to ensure the generalizability of findings has not crystallized into a definite common position (Dworkin, 2012; Nwozor et al., 2021). A total of thirteen experts were interviewed, comprising three frontline workers of the Nigeria Centre for Disease Control (NDDC), two officials of the World Health Organization (WHO), one Virologist from the University of Ilorin Teaching Hospital, two Medical Doctors from two isolation centers in Nigeria, two Officials of the Federal Ministry of Finance in Nigeria, and the Ministry of Trade and Investment, one Senior staff of the Central Bank of Nigeria, and one Senior Staff of the Debt Management Office (DMO), and one expert on International Economic Relations was selected from the Nigerian Universities. The interview instrument was based on the Semi-Structured question format. It was used to extract responses from the respondents.

Table 1

Characteristics of participants in key informant interviews

Key Informant ID	Sex	Occupations/Professional Affiliations
K1-1	F	Senior Health Officer at NCDC
K1-2	F	Health Officer at NCDC
KI-3	F	Health Officer at NCDC
KI-4	M	Senior staff of the WHO
KI-5	M	Senior staff of WHO
KI-6	M	Consultant and Virologist at the University of Ilorin, Teaching Hospital
KI-7	M	Medical Doctor at Kwara State Isolation center
K1-8	M	Medical Doctor at Lagos State Isolation Center
KI-9	M	Administrative Officer I, Ministry of Finance
K1-10	M	Administrative Officer II Ministry of Trade and Investment
KI-11	F	Senior staff of Central Bank of Nigeria
K1-12	M	Senior Officer Nigerian Debt Management Office
K-13	M	Professor of International Economic Relations from a Nigerian University

The secondary data were generated through the bibliographical method ranging from the institutional documents relating to infectious diseases, documents from the World Bank, Organization of Oil Producing Countries (OPEC), Central Bank of Nigeria, textbooks, Journal articles, and internet-based materials. Finally, the data generated were analyzed using the logic induction method and complemented with the thematic analysis.

RESULTS AND DISCUSSIONS

Summary of the Findings

However, the operationalization of the research instrument through a semi-

structured questionnaire has crystallized into major findings. Therefore, the data generated were converted to different themes, and the analysis was done accordingly.

Thematic Outline Based on the Data from the Key Informants

The findings are thematically structured as follows:

1. International politics of COVID-19 and blame game politics
2. The efficiency of the WHO within the context of the United States of America’s reaction
3. The effect of COVID-19 on advanced economies and its spillover effect on Africa

4. COVID-19 and Nigeria's economic contractions

International Politics of COVID-19 and Game Blame Politics

Apart from the global health emergency created by COVID-19, the pandemic outbreak also crystallized into international politics, majorly between China and the United States of America. Despite the efficacy of China's policy to contain the spread of COVID-19, President Trump of the USA, during one of the presidential media briefings at the Oval House, accused China of conspiracy with the WHO. The accusation by the president of the United States of America was a pointer to the fact that the magnitude of COVID-19 in China at the initial stage of the outbreak was deliberately underestimated and downplayed. Corroborating his accusation against China, some analysts questioned how China, the original epicenter of the virus, maintains a low profile of COVID-19 casualties (4,634) after several months of battling the pandemic during the first wave.

Despite the merit of his accusation, it was too simplistic and naïve for a plethora of reasons which include the following among the others: (1) Apart from the policy of the WHO, which allegedly was China-centric, the containment of COVID-19 by the government of China was not unconnected with her economic strengths coupled with the strategic management of information. The Chinese government managed the situation without over-reliance on external succor that could have exposed

the magnitude of the pandemic in the first wave. (2) At the initial stage of the outbreak, former President Trump commended China for its quick and effective response to the pandemic. WHO anchored its justification on this commendation by referencing the initial statement by the former American President when the United States of America threatened to halt its funding to the WHO. (3) Before America became the major victim of the pandemic, President Trump carelessly renamed COVID-19 a Chinese virus. This declaration by the American president drew heavy criticism across the globe as racist. The international opprobrium that greeted the controversial statement prompted the former president to change the nomenclature to an "invisible enemy."

The above points are not to de-emphasize the potency of exclusive information management, which China and several other countries are known for. It is not out of the question that China may have downplayed the gravity of COVID-19 during the first wave for its national interest. Notwithstanding the United States of America-China's strategic mistrust of COVID-19, the United States of America's response against China was expected to have been situated within the context of international law and global best practices. It would have prevented the escalation of COVID-19 beyond the first wave. There is no doubt that COVID-19 has created a "New World Order" driven by the pandemic, mainly between the United States of America and China. President Trump's administration formulated different economic policies to

alter bilateral relations with China. President Trump's administration levied tariffs on Chinese imports. Shortly after becoming the United States of America president, he moved the economy from the liberalism practiced for decades to protectionism. China, on the other hand, retaliated. The extant trade war between the two largest economies escalated and reignited during the second wave of COVID-19.

The Efficiency of the WHO Within the Context of the United States of America's Reaction

For decades, the United States of America has demonstrated a high commitment to the WHO. The economic prosperity of the WHO was not unconnected with financial aid from the USA over the years. From 2016–2017, the United States of America generously invested over US\$945.6 million in WHO (WHO, 2020). The United States was responsible for 22 percent of the WHO's core budget in 2019. Apart from her statutory responsibility to the WHO, the United States of America also provided voluntary funding, with amounts varying per year depending on the United States of America's priorities and global health needs. The United States of America's voluntary contributions from 2012 to 2018 averaged \$254 million per year (WHO, 2020). During the outbreak of COVID-19, the expectation of the WHO from the United States of America was high before President Trump decided to review the American altruistic policy toward the WHO.

The decision of President Trump was interpreted as an act of resentment against the WHO when he could not contain his fury against China. The efficacy of the United States of America's response to COVID-19 was comparatively defective compared to the first wave, as the States under President Trump deployed more might to bipolar international politics of COVID-19 to the detriment of global health frameworks that could have rescued Nigeria and other low-income countries that rely on the United States of American altruistic policy. It was, however, pointed out that funding suspension would have affected the State's influence in the WHO. It was also capable of crippling the global health framework because of the trust of the WHO in the American age-long funding. Despite President Trump's policy against the WHO by President Biden's abrogation, the WHO funding system requires more comprehensive financial parameters beyond the American altruistic policy.

The Effect of COVID-19 on the Advanced Economies and its Spillover Effect on Africa

The African index case was discovered in Egypt on February 14, 2020 (WHO Africa, 2020). South Africa was the hard-hit country in Africa during the protracted second wave, with 627,041 infected persons and 14,149 casualties as of early August 2020. Egypt recorded 98,939 COVID-19 cases with 5,421 deaths. The first index case was discovered in Nigeria on February 25, 2020, when an Italian citizen in Lagos tested

positive (NCDC, 2020). From February 25 to August 1, 2020, Nigeria recorded 54,008 cases of COVID-19 with 1,013 fatalities making the country the third most ravaged country in Africa during the protracted second wave (NCDC, 2020).

The second pandemic wave marked the beginning of the internationalization of COVID-19. Economic activities experienced a significant decline within the short period of the outbreak in the United States of America and Europe compared to mainland China. In the United States of America, economic activities declined below 95 percent within 65 days of the outbreak. In Italy and Australia, economic activities declined below 95 percent and 90 percent within 57 days and 85 days of the pandemic (Mendoza, 2020). During the initial lockdown in the UK, it was estimated that the GDP was down by 30 percent in May 2020, coupled with the closure of 23 percent of businesses at the initial stage of the pandemic (Allas et al., 2020). In Southern America, the incidence of COVID-19 reached 2 million as of June 2020. The magnitude of COVID-19 incidence in the region plunged the Latin American region into a double-digit recession. The tourism sector's contribution to Brazil's GDP in 2020 was estimated to decrease by 38.9 percent in 2019, and this has translated to a decline from a recorded 270.8 billion in 2019 to 165.5 billion by the end of 2020 (Statista, 2020). Saudi Arabia's economic outlook for 2020 was very weak in the wake of COVID-19 and the oil supply shock alongside the fiscal deficit that characterized

Saudi's economy. The pandemic had halted the diversification efforts of Saudi Arabia's government. The significant loss of revenue owing to the suspension of Hajj and Umrah, estimated at \$12 billion annually, has put a significant strain on the Kingdom (Hajj 2020). Saudi Arabia prohibited international visitors from making the 2020 Hajj to clip the spread of COVID-19. The Kingdom attracted more than 19 million pilgrims for Umrah and 2.5 million pilgrims for Hajj in 2019; these two spiritual exercises contributed approximately \$12 billion, or 7 percent of total GDP, and 20 percent of its non-oil GDP (Hajj, 2020). The stock markets worldwide were pounded, and oil prices fell off a cliff (Shang et al., 2020).

Africa appeared to have become the hub of the economic distress of COVID-19. Although the number of cases and casualties was comparatively low in Africa compared to other regions; however, the looming health and economic shocks of the pandemic have had a disastrous impact on the continent's already strained economy. As observed by the World Economic Report 2020, Africa experienced a general slump in FDI flows in 2019 by 10 percent (Ogunfuwa, 2020). Corroborating the global economic impact of COVID-19, International Monetary Fund asserts the global Coronavirus pandemic sparked an economic crisis like no other, sending World GDP plunging by 4.9 percent in the year 2020 and wiping out \$12 trillion over two years, while the global trade was expected to drop around 18.5 percent year-on-year in the second quarter of 2020 (WTO, 2020). In addition, worldwide

business shutdowns destroyed hundreds of millions of jobs, and major economies in Europe and other regions faced double-digit collapses.

Africa was an annex of the second wave outbreak. As a result, most African countries experienced major declines in their economic activities within the short period of the COVID-19 outbreak. In Egypt, for example, economic activities declined below 95 percent within 72 days of the outbreak; in Rwanda and Nigeria, economic activities declined to almost 90 percent and below 90 percent within 61 days and 54 days, respectively (Mendoza, 2020). However, the downturn is particularly damaging for low-income countries and households.

South Africa was the hard-hit country in Africa, accounting for 25 percent of the continent's total cases. The Western Cape and Eastern Cape provinces reported high cases and deaths (Igomu, 2020). In addition, South Africa's unemployment rate jumped to 30.1 percent in the first quarter of 2020 because of the prolonged lockdown (Writer, 2020). In the same vein, the unemployment ratio climaxed to 7.1 million, with the formal sector shedding the most jobs as most industries experienced job losses (IMF, 2020).

COVID-19 and Nigeria's Economic Contractions

Within the short period of the second wave outbreak in Nigeria, COVID-19 significantly affected the Nigerian economy with a 4.4 percent contraction in Gross Domestic

Product (Mayowa, 2020). Nigeria's crude oil demand decline in 2019 had already shrunk foreign direct investment flow into the country (Ogunfuwa, 2020). According to the World Investment Report 2020, FDI into Nigeria declined by 48 percent to \$3.3 billion in 2019 from \$6.4 billion in 2018, and the inward FDI to Nigeria almost halved to \$3.3 billion due to a slowdown in investment in the oil and gas industry (Ogunfuwa, 2020). According to NBS, the contribution of the oil sector to aggregate GDP stood at 9.50 percent in the first quarter of 2020, and it constitutes 80 percent of Nigeria's exports, 30 percent of its banking sector credit, and 50 percent of the overall government revenue (Asu, 2020).

Before the pandemic outbreak, Nigeria was on the verge of economic ruin because of its towering debt profile and dwindling oil prices. Nigeria's debt portfolio rose to N28.63 trillion, and it rose from N 27.4 trillion in December 2019 to N28.63 trillion in March 2020. Within the short period of the pandemic, Nigeria's debt profile grew by 1.23 trillion, while her deficit budget became highly improbable (Okechukwu, 2020b).

Prior to the outbreak of COVID-19, the crude oil benchmark was \$57 per barrel, which was later revised to \$28 per barrel. The revised budget of 10.8 trillion off, or 020, had 2.951 trillion that was earmarked for debt servicing (Aborisade, 2020). The 2020 budget was the most unrealistic in the recent history of Nigeria in view of the 2.95 trillion earmarked for debt servicing and the deficit budget of almost 50 percent (The World Bank, 2020). Apart from the cost of

managing the pandemic that overpowered Nigeria's economy, the different phases of lockdown in the country and the global shutdown had a more devastating impact on the Nigerian economy. The only option for the Nigerian government during the protracted second wave was the addiction to external succors. The economic impact of COVID-19 was estimated to cost Nigeria and other oil exporters in Africa a total of about \$34bn in revenue because of dwindling uncertainties that characterized global crude oil prices (Okechukwu, 2020a). The economic shock of COVID-19 crippled fiscal resources. Hundreds of thousands of vulnerable workers lost their jobs. As Femi (2020) pointed out:

Nigeria and other countries might suffer a Gross Domestic Product (GDP) loss of not less than \$ 189.7 billion in the worst—case scenario of the post—lockdown era, with Nigeria and the Democratic Republic of Congo accounting for the highest population in the continent. The two nations could record the largest surges in extreme poverty in the region of 8.5 million and 2.7 million in the baseline scenario in 2020 and 11.5 and 3.4 million in the most unpleasant situation, while the extreme poverty could increase by 2.14 to 2.84 percent in 2020, and about 3.63 percent in 2021, the situation would push 49 million people into poverty, while 25-30 million jobs could be lost. (Femi, 2020)

Similarly, Zainab Ahmed, the Honorable Minister of Finance, corroborated the comment above when she said that COVID-19 had a strong negative impact on the Nigerian economy. She expressed her deep concern about the possibility of Nigeria slipping inevitably into a rerecord-breaking recession following the adverse effects of the novel Coronavirus disease on the price of crude oil and general economic productivity in Nigeria and across the world (Mayowa, 2020).

The “Presidential Economic Sustainability Committee further unveiled the magnitude of COVID-19 impact on the Nigerian economy.” In response to cushion the effect of COVID-19 in Nigeria, the Buhari-led administration set up a committee during the protracted second wave to develop an economic road map for the post-COVID-19 era. The committee technically declared a state of emergency on the Nigerian economy amid the COVID-19 second wave, and it was observed that about 39.4 million Nigerians were at risk of losing their jobs while millions more may slide into acute poverty in the post-COVID-19 era (Olalekan, 2020). According to Oyero (2020), 43 percent of the poor live in Nigeria, India, and DR Congo (Nigeria—12 percent, India—24 percent, and the Democratic Republic of Congo—7 percent). These countries have the highest shares of the world's extremely poor and are not projected to grow faster than their populations during the pandemic.

CONCLUSION AND RECOMMENDATIONS

The preceding analysis has examined the factors that escalated the global spread of COVID-19 and its devastating outbreak in Nigeria. The study revealed the connection between the international politics of COVID-19 and the dreadful outbreak in Nigeria. It also analyzed the impact of COVID-19 on the Nigerian economy. The study observed the newness of COVID-19, its novelty and its unprecedented challenges to the global economy. The outbreak of COVID-19 was characterized by different controversial circumstances, which eventually culminated in global politics. Despite being the eighth virus in the anal of global viruses, the scientific evidence on the causes of COVID-19 has generated controversial debates on a global scale. Apart from the zoonotic dimension of COVID-19, which appears to have received popular acceptability among scientists and the United Nations Environmental Program, there are other peripheral claims on the causes of COVID-19, which are frustrating the extant epidemiological evidence on the causes of COVID-19.

Conversely, the internationalization of the pandemic was greeted with the second outbreak wave in some advanced countries like Italy, the United States, the United Kingdom, Brazil, Germany, and other countries around the world. As observed by the Aljazeera correspondent, COVID-19 spread to over one hundred countries within six months of the pandemic (Halkett & Al Anstey, 2020). Although the

number of COVID-19 cases and causalities appeared comparatively low in Africa compared to other regions, the looming health and economic shocks of COVID-19's disastrous impact on the continent have already strained the economy. In Nigeria, for example, the outbreak of COVID-19 devastated the already tense economy within the short period of the outbreak in the country.

As the world commences the inoculation against COVID-19, the study makes some salient recommendations for the post-COVID-19 era. First, the development of weaponry has become a fundamental focus of some advanced countries over the years. Second, the focus should be shifted to the global health sector, with priority given to national security beyond the scope of weaponry. Third, the national security of global pandemics should be the topmost priority.

The over-reliance on the World Health Organization (WHO) for the management of the pandemic has worsened the global outbreak of the pandemic in recent times. The WHO is a specialized agency of the United Nations; it came into force on August 31, 1948. Since its formation, the quest for comprehensive reform of the WHO has become irresolvable. The global health challenges require another framework beyond the scope of the WHO. The outbreak of COVID-19 met the African health sector in a state of decadence, most especially Nigeria's health sector. The rejigging of the African economy and its health sector should be prioritized, coupled with comprehensive

research on traditional medicine. The Nigerian economy needs to be repositioned in consonance with the agro-based economy. The only potential the Nigerian government can leverage at this critical stage is the agro-based economy, as the petroleum economy is gradually declining. The study also recommended fully implementing the Carbis Bay declaration in the United Kingdom.

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A Systematic Review on Inter-Relationship of Residential Neighborhood Characteristics on Quality of Life of Elderly

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ABSTRACT

The aspects of spatial planning have been aimed at supporting older people to stay healthy and active in their daily lives, as well as to improve their overall quality of life. Older people require accessible and functional venues and social environments that suit their emotional needs and goals. However, there has been limited study on the most significant characteristics of residential settings that impact the well-being of elderly inhabitants. This study aims to provide a comprehensive review of neighborhood residential environment elements and various Quality of Life (QOL) attributes, as well as their interrelationships, to encourage healthy aging. A framework for analyzing neighborhood features was developed as part of this critical analysis through extensive analysis of chosen articles. According to the review, social life is the most influential component of QOL, followed by neighborhood living settings and housing layouts that promote mobility features to participate in physical activities, generating a feeling of community and belonging and leading to a healthy life. Further research should be conducted to investigate the influence of these characteristics on the overall satisfaction level of the elderly in later life.

Keywords: Healthy aging, quality of life, residential environment, sense of community

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INTRODUCTION

While the worldwide population of older adults is growing, some countries have a much larger proportion of older individuals than others. According to the WHO, the number of individuals over 60 worldwide will nearly double from 12% to 22% between 2015 and 2050. By 2020, children under five will outnumber people aged

60 and up (WHO, 2015). The primary challenge for ensuring the elderly's healthy aging process is improving their quality of life inside their home environment, which is one of the major concerns in the global aging process (Hooper et al., 2020). Numerous studies have focused on "aging-friendly communities," which established a link between residents' environment and well-being (Zheng & Chen, 2021).

Many studies have been conducted in western and eastern countries on the influence of neighborhood factors on healthy aging (Yu & Zhang, 2020). Furthermore, it has been demonstrated that, in the context of rapid urbanization, there is a link between neighborhood characteristics (such as building density, floor area ratio, mixed land use, and green space) and inhabitants' physical and mental health (Liu et al., 2018). Furthermore, according to Luo et al. (2019), essential neighborhood infrastructures significantly influence residents' cognitive performance in their immediate surroundings (Luo et al., 2019). Therefore, in recent years, one of the primary goals of municipal and urban planning policies has been to improve the environmental quality of the built environment around residential neighborhoods.

Numerous residential environment study approaches have introduced the concept and developed associated issues from the perspectives of several disciplines, such as anthropology, architecture, economics, geography, psychology, and sociology (Xiaoyu et al., 2007). Based on the concept of social-ecological models for the elderly,

many researchers have researched the impact of the elderly's living environment on their health and how it impacts their behavior (Zheng et al., 2020). Neighborhood spaces, comparable to residential settings, are defined as constructed and unbuilt, open and semi-open spaces that correlate with built-up regions and serve as facilities for interaction, community bonding, and other support activities within a community (Gulati, 2019). Because these areas enable socially engaged, invading populations that have previously worshipped, hugged, or wept in an informal community, they are in charge of the residents' holistic growth and general comfort (Hooper et al., 2020). However, due to rapid population growth, dispersed settlement, and developers' indifference, most modern housing complexes do not provide long-term, sustainable living conditions, particularly in urban areas (Gulati, 2019). Most prior research focused on the significance of neighborhood context and environmental quality for healthy aging and well-being. Researchers have also highlighted the numerous aspects impacting inhabitants' overall comfort for their well-being. However, the physio-social aspects of a residential neighborhood that promote elderly well-being are not explored.

Additionally, it is unclear what factors influence a person's quality of life as they age. Furthermore, exploring how the residential neighborhood environment influences how the elderly behave and perceive their quality of life at this stage is critical. There is also a need to critically review the most influential neighborhood

characteristics that affect the quality of life for the elderly to enable future designers and planners to propose design interventions that take these factors into account as part of an inclusive design approach for the elderly.

People attain physical and social well-being within the resources and limitations they encounter; therefore, achieving a certain degree of well-being may be more difficult for others (such as those who live in a socially depressed neighborhood, have chronic health concerns, or are hospitalized). Specifically, this study sought to (i) examine neighborhood characteristics as an instrumental tool toward achieving well-being among community-dwelling older people; (ii) identify various factors that impact the quality of life of the elderly within their residential neighborhood; and (iii) critically review the neighborhood characteristics that influence the quality of life for older adults. The research will focus on a critical review of the extracted major variables from a literature review that focuses on the characteristics of the residential environment to enable quality of life for older adults. In addition, it will emphasize determining the key elements of neighborhood characteristics that improve the elderly's quality of life. The systematic literature review is carried out to answer the following research questions:

RQ-1: What are the characteristic features of residential neighborhoods that have been addressed in literature?

RQ-2: What are the various attributes of quality of life influenced

by the neighborhood's residential characteristics?

A systematic literature review of 45 papers has been undertaken to address the abovementioned research questions. The findings from the literature are evaluated using a contextual analysis framework to extract various factors, analyze these factors using the evaluation framework, and conclude with a set of development principles and guidelines derived to assist Urban Designers, Architects, and Planners in developing future neighborhood residential settlements in an urban context. Firstly, the paper explores the various definitions of "residential neighborhood" in an urban environment to comprehend the neighborhood's complete meaning and its various determinants. The study's second objective is to comprehend the "Quality of life" features for residents, including its threads, structure, and substance, as well as its relationship to the health dimensions of the aged. Secondly, the paper discusses the research methodology, elaborating on the contextual analysis framework to extract factors for the evaluation framework to analyze the various attributes of Quality of Life (QOL) and Neighborhood characteristics (NC) and their influence on the life and well-being of the elderly. Thirdly, the paper summarizes the findings of the literature reviews and provides a thorough analysis of the various factors and their effects on the well-being of the elderly. Finally, the study concludes with a discussion of the potential gaps that need to be addressed as a basis for future research in this field.

LITERATURE REVIEW

Understanding the Fundamental Concepts of “Residential Neighborhood” and “Quality of Life”

In the previous documented literature, the researchers sought to comprehend the principles of a residential neighborhood and the concept of quality of life (Tables 1 and 2). This study intends to the various qualities of both variables that have already been studied to determine whether there is a link between them. If a relationship exists, what are the primary issues or challenges highlighted in the research to establish the link? The first part of the study is full knowledge of the idea of a “residential neighborhood” with its accompanying anchoring services. It also contained a summary of the social and cultural features of community life that individuals in these communities build through time. However, it is difficult to find a theoretical definition of a “neighborhood unit” that applies to all neighborhoods (Feng et al., 2018). Several approaches have been used to develop an idealized neighborhood definition; every urban dweller perceives the city to be large; the magnitude of the community inhabitants’ perception of size and scale is limited by well-defined natural or built boundaries, such as lakes, parks, gardens, and others (Table 1). Urbanists have defined the scale of an ideal community in a variety of ways. A person living in a city may perceive the scale of their neighborhood differently. Residents’ perceptions of neighborhood size and scale vary, even when clearly marked by natural or artificial boundaries such as highways, lakes, gardens, and others.

Any study of residential segregation, on the other hand, is reliant on a well-defined, uniform, and similar concept of an “analytic neighborhood” (spatial unit of analysis) (Bharathi et al., 2018). Residential communities are progressively becoming aware of the impact of location and space on human well-being. Environments are likely to impact people’s health-related lives (Zasada et al., 2020). The paucity and poor quality of open space in urban settings may be a substantial barrier to inhabitants’ well-being (Lestan et al., 2014). According to Lestan et al. (2014), the quality of life in new residential communities is insufficient for some user groups (for example, the elderly) and is not long-term sustainable. Residential areas are not merely for the active and wealthy, who can function independently of their surroundings.

As a result, they must provide a safe environment for disadvantaged groups whose way of life is influenced by physical and social activity in their immediate surroundings (Thompson et al., 2012). When they arise from the ideological dispositions of practitioners in society, the notion of neighborhood tends to be a convenient and efficient approach that recognizes neighborhood planning as a subjective preference (Kallus & Law-Yone, 2000). The most desirable advantages, quality, safety, and security were not recognized as tangible in the community, particularly among the elderly, emphasizing the importance of developing an appropriate local management system. There is no option for the appropriate urban form: each

has advantages and disadvantages (Conde & Pina, 2014). The “context” is the key determinant and includes a broad variety of social, fiscal, geographic, physical, and ethical characteristics (Shirazi, 2020).

Table 1

Definition of “residential neighborhood” (summarized by author)

Residential Neighborhood		
1	Kallus and Law-Yone (2000)	As a comprehensive residential system, the neighborhood is a complex and multi-faceted phenomenon.
2	Novikova (2022)	Residential neighborhood emphasizes—public spaces, public buildings, and public services—offer a third framework for understanding and anchoring neighborhood: the “local public realm.”
3	Clark (1980)	The neighborhood is a sociological and geographic concept playing an increasingly vital role in research, government policy, and urban citizen well-being practices. The land, buildings, people, and organizations that comprise a neighborhood give it its identity. Geography determines the origins of neighborhoods.
4	Dannreuther (2004)	A residential neighborhood is essentially the region where people live. Communities arise when people from various regions of a city or town live close to one another. However, physical or sociological barriers separate these places from the rest of the towns. When applied to the notion of a neighborhood, the term "community" refers to a social group that exists in a specific area and shares resources and values.
5	Bergström et al. (2013)	Five characteristics comprise a neighborhood: accessibility to the city center, communications and services, quality and accessibility of services and facilities, social environment, and individual site and dwelling characteristics. Therefore, the neighborhood is comprised of these five characteristics.

Table 2

Definition of “Quality of Life” (summarized by author)

Quality of Life (QOL)		
1	Wijngaards et al. (2022)	The extent to which a person's bodily, psychological, social, occupational, material, and structural needs are met.
2	Gotay and Moore (1992)	A person's assessment of the overall quality of life and whether it meets one's expectations.
3	Spilker and Ph (1990)	“...a state of well-being which is a composite of two components: 1) the ability to perform everyday activities which reflects physical psychological, and social well-being and 2) patient satisfaction with levels of functioning and the control of disease and/or treatment-related symptoms.”
4	World Health Organization, Quality of life [WHO QOL] (1998)	“...the satisfaction of an individual’s values, goals and needs through actualizing their abilities or lifestyle.”
5	Kirschbaum and Knafelz (1996)	“...the individuals’ perception of their position in life in the context of the culture and value systems in which they live, and in relation to their goals, expectations, standards, and concerns.”
6	Wolf-Branigin et al. (2001)	“The value assigned to the duration of life as modified by impairment, functional status, perception and opportunity influenced by disease, injury, treatment, and policy.”
7	Kirschbaum and Knafelz (1996)	“There is broad agreement that health-related quality of life (HRQOL) is the functional effect of a medical condition and/or its consequent therapy upon a person. HRQOL is thus subjective and multidimensional, encompassing physical and occupational function, psychological state, social interaction, and somatic sensation.”
8	Kaplan and Ries (2007)	“Subjective quality of life reflects an individual’s overall perception of and satisfaction with how things are in their life.”
9	Shepherd et al. (2010)	The overall enjoyment of life.
10	Theofilou (2013)	Changes throughout time in how someone or a group views their physical and emotional well-being.
11	Haraldstad et al. (2019)	Quality of life (QOL) is an essential endpoint in medical and health research, and there are several target populations and study strategies for QOL.

a. On the other hand, many techniques for describing QOL have been developed, representing various approaches to the theme. Table 2 includes an incomplete set of definitions. Most definitions are specific to a person's evaluation ("satisfaction": numbers 1–5) (Post, 2014). Others apply to numerous domains (Kaplan & Ries, 2007), and others are more generic assessments (Haraldstad et al., 2019). One definition (WHO QOL, 1998) is more function-oriented than the others, while another focuses on cultural and social norms influencing the QOL experience (Gotay & Moore, 1992). One description considers objective and subjective QOL (Theofilou, 2013). Post (2014) combined four major health elements into a multidimensional conceptual framework. Physical health includes somatic stimuli, medical symptoms, and adverse drug reactions. Mental well-being can range from a sense of general happiness to non-pathological types of mental disease to a clinical disorder that can be diagnosed and treated

b. The promotion of social welfare via quantitative and objective assessments of social connections and relationships. Functional well-being refers to a person's physical functioning (including their ability to care for themselves, be independent, and engage in physical activities), as well as their social position functioning (relationships with family and work). As a result, quality of

life is often regarded as an important healthcare metric. This definition is becoming more popular in conjunction with long-term therapy. However, because of imprecise definitions and assessment procedures, increasing or optimizing QOL, in the long run, appears to be in long-term care activities (Panday et al., 2015).

RESEARCH METHOD

Selection Criteria

According to a wide range of studies, health and well-being are directly linked to an individual's neighborhood. In addition, many studies have looked at the impact of life quality on other elements of health and well-being. However, there are still many unknowns regarding what makes people happy in their lives. Niknejad's et al. (2020) review methodology was employed in this study because the researchers thought it was the most appropriate research approach for undertaking the critical review. We did a Google Scholar search using the terms "elderly," "older adult," "senior citizen," "aging process," "healthy aging," "residential neighborhood," "community living," "quality of life," and "residential housing" (Levy & Ellis, 2006). Articles concentrating on design and built environment qualities were evaluated to comprehensively analyze neighborhood residential settings, emphasizing older persons' well-being and quality of life. Several evaluations have been written in the social sciences, the humanities, and

other academic disciplines on the residential community for older individuals. However, locating a significant quantity of systematic research in the design domain about the quality of life in residential settings for older individuals was challenging. Since the number of older individuals in their target group was insufficient to focus just on one demographic, this study set comprised studies from both residential communities and neighborhood settings. We analyzed 45 publications on residential features and quality of life published in the sphere of architecture since 2011, which are used to categorize issues that should be considered when developing a pleasant home environment for older persons. Table 1 lists the publications selected for critical assessment and their conclusions. The conclusion of each evaluation is classified into two categories: (1) Neighborhood Characteristics (NC) and (2) Quality of Life (QOL).

Contextual Analysis

For the first stage of the critical assessment, we created a framework for contextual analysis to extract key aspects that focused on characteristics of the residential environment to enable senior citizens’ quality of life (Table 3). We focused on the following aspects for each selected paper: Title of the paper, Outcome of the paper, Source Database, Findings, and Parameters extracted NC/QOL. Residential features and quality of life are the two primary focuses of this study. The most important components of both aspects were expected to be extracted from the articles. Each component has addressed RQ-1 and RQ-2. Despite the fact that other studies did not specifically target the needs of the elderly, older persons are nonetheless included in the findings of some of those studies. Self-reporting studies outnumber exploratory investigations in terms of percentage.

Table 3
Summary of literature findings

ID	Author(s)	Title of the paper	The outcome of the paper	Source Database	Findings	Parameters extracted NC /QOL
S1	Hooper et al. (2020)	Living livable? RESIDE’s evaluation of the “Livable Neighborhoods” planning policy on the health-supportive behaviors and well-being of residents in Perth, Western Australia	Walking, a sense of community and safety-related outcomes were linked to a variety of urban design aspects.	Elsevier (Scopus)	impact of the planning policy on a range of health-supportive behaviors and well-being	NC- Built environment features: Well-being attributes

Table 3 (Continue)

ID	Author(s)	Title of the paper	The outcome of the paper	Source Database	Findings	Parameters extracted NC /QOL
S2	Joon (2020)	A Study on POE according to the residential environment of mixed-used apartment complexes in Seoul	User research analysis to evaluate POE demonstrates the character of spaces in a residential environment.	Elsevier (Scopus)	Safety, satisfaction, and security are important Residential environment of the mixed-used apartment	NC- Experience: Positive and Accepted
S3	Zhong et al. (2020)	Community Environments That Promote Inter-Generational Interactions vs. Walking Among Older Adults	walking, walking with children, walking with older adults, intergenerational community	Frontiers in Public Health (Google Scholar)	Two of the most helpful activities for elderly individuals are intergenerational contact and walking.	QOL- Wellness: Social Interaction
S4	Wei-Lun et al.(2020)	How do natural features in the residential environment influence women's self-reported general health? Results from cross-sectional analyses of a U.S. national cohort.	Ecosystem services, Ecological health, and Climate Change A dense, impenetrable canopy of trees Physical activity, social support, and Air quality	ScienceDirect	Analyze the potential health benefits of living near nature to understand better.	QOL- Wellness: health benefits
S5	Lee and Kim (2020)	A Critical Review of Smart Residential Environments for Older Adults With a Focus on Pleasurable Experience	Aging in place, elders, and a delightful experience are all synonyms for "smart environment" and "smart home."	Frontiers of Psychology (Open Access) (Google Scholar)	Smart environments emphasize efficiency, effectiveness, and satisfaction	NC- Experience: perceived usefulness

Table 3 (Continue)

ID	Author(s)	Title of the paper	The outcome of the paper	Source Database	Findings	Parameters extracted NC /QOL
S6	Miyazaki and Ando (2020)	Hierarchical Structure Analysis on Health Determinants of Living Environment Defining Social Capital	Either directly or indirectly, communal components and the facility's residence impact the SC's health and well-being.	IOP Publishing (Scopus)	A living environment that promotes SC may help with health improvement and maintenance.	NC-Living Environment: Safety and health
S7	Lauwers et al. (2020)	Urban environment and mental health: the NAMED project, protocol for a mixed-method study	the relationship between mental health and urban living	BMJ Open (WoS)	links between elements of the urban environment and mental health	NC-Wellness: Nature's impact and mental health
S8	Segaran et al. (2020)	Traffic Noise Assessment among Residential Environment in Batu Pahat, Johore, Malaysia	determination and evaluation of noise indices; traffic noise effect assessment.	IOP Publishing (Scopus)	Noise pollution has been a major issue in the neighborhood.	NC-built environment: Noise impact
S9	Zasada et al. (2020)	Home gardening practice in Pune (India), the role of communities, urban environment and the contribution to urban sustainability	Sustainable urban environments, food production, and biodiversity may all be achieved via urban agriculture and home gardens.	Springer Nature	conserving and building home gardens can contribute to urban sustainability	NC-Sustainability: Environmental attributes and nature, landscaping.
S10	Kristiyantoro et al. (2019)	Self-governing "Green Alley" implementation as the Solution to address the environmental challenge of public housing in Depok City	social capital is the neighborhood's self-reinforcing nature.	IOP Publishing (Scopus)	We may find innovative ways to transform the area between buildings and streets into a green corridor by working collaboratively.	NC-Sustainability: Green corridor

Table 3 (Continue)

ID	Author(s)	Title of the paper	The outcome of the paper	Source Database	Findings	Parameters extracted NC /QOL
S11	Gulati (2019)	Neighborhood spaces in residential environments: Lessons for contemporary Indian context	Traditional Indian housing, Residential neighborhoods, Contemporary Indian housing.	Elsevier (WoS/ Scopus)	Factors affecting comfort in the neighborhood the spaces	QOL- Sense of belongingness
S12	Chen et al. (2019)	Environmental Satisfaction, Residential Satisfaction, and Place Attachment: The Cases of Long-Term Residents in Rural and Urban Areas in China	Applied environmental psychology; place attachment; urban and regional planning; place satisfaction.	Elsevier (WoS/ Scopus)	rural and urban areas have considerable disparities, with home satisfaction mediating factors.	QOL- environmental psychology and place attachment
S13	Hwang et al. (2019)	Research on Housing for Older Adults: 2001 to 2018	An analysis of the present housing stock and the potential for technological transformation to fulfill the increasing demand.	Elsevier (WoS/ Scopus)	housing behavior perception, policy and design features.	NC- Livability: Housing options
S14	Valibeigi (2020)	Enhancing urban local community identity in Iran based on perceived residential environment quality	residents' perceptions of environmental quality in their neighborhoods; ULCI; urban identity; ULCI	Elsevier (WoS/ Scopus)	neighborhood attachment (NA) is an important component of local urban identity	QOL- cultural identity
S15	Robinson et al. (2019)	Housing options for older people in a reimagined housing system: a case study from England	Neoliberalism in England; the aging population; the property market; the elderly	Taylor and Francis	New groups and situations will benefit from the neoliberal approach to the right to housing.	NC- Livability: housing options

Table 3 (Continue)

ID	Author(s)	Title of the paper	The outcome of the paper	Source Database	Findings	Parameters extracted NC /QOL
S16	Awad (2019)	Sustainable Urban Growth of Neighborhoods-A Case Study of Alryad-Khartoum	Compact neighborhood, Land uses Residential area, Transformation, Mixed use.	Elsevier (Scopus)	External influences initiated the neighborhood transformation process.	NC- Design: residential layouts
S17	Bivoltsis et al. (2019)	The evolution of local food environments within established neighborhoods and new developments in Perth, Western Australia	Food environment Health inequalities Urban planning policy Socio-economic status	ScienceDirect	"Livable Neighborhoods Community Design Guidelines"	NC- Design: livable communities
S18	Bamzar (2019)	Assessing the quality of the indoor environment of senior housing for better mobility: a Swedish case study	As the elderly population grows, so does the need for housing modifications to ensure their safety.	Elsevier (WoS/Scopus)	seniors' indoor living environment	NC- Built environment design attributes: Safety
S19	Kaczynski et al. (2018)	Relationship of objective street quality attributes with youth physical activity: findings from the Healthy Communities Study	Specific street quality attributes may be associated with youth PA.	Pediatric Obesity SUPPLEMENT ARTICLE (Google Scholar)	Residential environments may significantly influence youth's physical activity (PA).	NC- Well-being: Activity physical
S20	Paine et al. (2018)	Learning from lived experience for the improvement of health-supportive built environment practice	design and management of built environments promote health and well-being	Routledge (Scopus)	Building environment planning, design, construction, and management	QOL- Built environment design attributes: health aspects

Table 3 (Continue)

ID	Author(s)	Title of the paper	The outcome of the paper	Source Database	Findings	Parameters extracted NC /QOL
S21	Xiaoyu et al. (2018)	Residential Environment Evaluation Model and Residential Preferences of the Changjiang Delta Region of China	appraisal of the residential environment, residential preference; residential choice; and contentment with the residential environment are all factors in this evaluation.	Taylor and Francis (Scopus)	residential attributes, residential satisfaction, residential preferences and residential selection factors	QOL-Environmental quality
S22	Houle et al. (2017)	An intervention strategy for improving the residential environment and positive mental health among public housing tenants: rationale, design and methods of Flash in my neighborhood!	An intervention approach based on location a healthy state of mind Empowerment program Public housing as a place to live	BMC Public Health (Google Scholar)	an effective strategy for promoting mental health and social cohesion in a large group setting	QOL-Wellness: mental health
S23	Feng et al. (2018)	The impact of neighborhood environments on quality of life of older adults: Evidence from Nanjing, China	the built environment, quality of life	SAGE (WoS/ Scopus)	neighborhood environments and the quality of life	QOL-neighborhood environments
S24	Coulombe et al. (2018)	Using a neighborhood observation to support public housing tenants empowerment	Triangulating findings from numerous sites is required to prove the added value of this action research project's observation approach more accurately.	SAGE (WoS/ Scopus)	Having a strong sense of belonging to a group benefits both the person and the group.	QOL-sense of community

Table 3 (Continue)

ID	Author(s)	Title of the paper	The outcome of the paper	Source Database	Findings	Parameters extracted NC /QOL
S25	Khosravi et al. (2016)	An Exploratory Research on the Structure of Perceived Residential Environment Quality	Individual housing happiness as a distinct aspect of life pleasure	Elsevier (WoS/Scopus)	include hedonic and predictive approaches, as well as look at the connections between values in satisfaction	QOL-satisfaction level
S26	Onunkwor et al. (2016)	A cross-sectional study on quality of life among the elderly in non-governmental organizations' elderly homes in Kuala Lumpur	Elderly, Nongovernmental Organizations, Senior Living Facilities, Quality of Life	Elsevier (WoS/Scopus)	Public health challenges include ensuring the health and well-being of the elderly, preventing their institutionalization, and enhancing their quality of life.	QOL-social participation
S27	Riley et al. (2016)	Racial Differences in the Effects of Neighborhood Disadvantages of Residential Mobility in Later Life	Neighborhood inequality— Person— environment fit— Race differences	Oxford, Gerontological Society of America (Google Scholar)	The role of the home environment in explaining the mobility of older adults living alone is well-documented.	NC-Design: mobility aspects
S28	Foster et al. (2016)	Safe Residential Environments? A longitudinal analysis of the influence of crime-related safety on walking	Increase levels of physical activity, community social and physical interventions, and environmental interventions that build a sense of safety among residents.	Bio MED	pedestrian activity and neighborhood inhabitants' sense of safety from criminal activity.	NC-Design: safety aspects

Table 3 (Continue)

ID	Author(s)	Title of the paper	The outcome of the paper	Source Database	Findings	Parameters extracted NC /QOL
S29	Burholt et al. (2016)	Older People's External Residential Assessment Tool (OPERAT): A complementary participatory and metric approach to the development of an observational environmental measure	Through environmental aesthetics, environmental stress, and neighborhood disorder, local neighborhoods can impact the lives of residents of any age.	BMC Public Health	In the face of a rapidly aging population, environmental interventions to enhance health and well-being have become more significant.	QOL- Local neighborhood
S30	Miller et al. (2017)	Energy efficiency of housing for older citizens: Does it matter?	Aging in place, Wellness, Thermal Comfort, Morbidity, Mortality, Financial Prosperity	Elsevier (WoS/ Scopus)	Energy efficiency and thermal comfort	QOL- comfort level
S31	Panday et al. (2015)	A study on the quality of life between older adults living in nursing homes and within family setup	Those elderly individuals who resided in a nursing home had a higher quality of life than those who lived with their families.	Research Gate	analyze and compare the quality of life of older adults in old homes and those in their families.	QOL- family set up
S32	Farzianpour et al. (2015)	Quality of Life for Elderly Residents in Nursing Homes	Quality of Life, elderly, nursing homes, (SF36) and (CPSC) Questionnaires, Iran	Elsevier (Scopus)	effective QoL dimensions, especially mental health	QOL- social life

Table 3 (Continue)

ID	Author(s)	Title of the paper	The outcome of the paper	Source Database	Findings	Parameters extracted NC /QOL
S33	Farahani et al. (2014)	A Framework for Exploring the Sense of Community and Social Life in Residential Environments	Neighborhood; Sense of community, Social life, locality.	ArchNet (WoS/ Scopus)	housing that fosters a sense of community	QOL- residential environment
S34	Li et al. (2012)	Neighborhood Type, Gated, and Residential Experiences in Chinese Cities: A Study of Guangzhou	Community attachment and neighborhood satisfaction are greater in commodity-housing estates, but gating appears to have a minor influence on community attachment.	Florida State University (Google Scholar)	community attachment and neighborhood satisfaction	QOL- community attachment
S35	Ochodo et al. (2014)	External Built Residential Environment Characteristics that Affect Mental Health of Adults	significant correlations between key urban living environment factors and the probability of specific mental health issues in adults	Bulletin of the New York Academy of Medicine (Google Scholar)	The external built environment characteristics were studied	NC- Design: external built environment
S36	Wu et al. (2014)	Assessing environmental features related to mental health: a reliability study of visual streetscape images	Development of auditing tools in the community, Mental wellness, Built environment, and Residential environmental assessment tool	BMC Public Health (Scopus)	Google Street View may examine environmental factors affecting mental health, such as pollution and noise.	QOL- Design: assessment of the built environment

Table 3 (Continue)

ID	Author(s)	Title of the paper	The outcome of the paper	Source Database	Findings	Parameters extracted NC /QOL
S37	Conde and Pina (2014)	Urban dimensions for neighborhoods with higher environmental value	urban environmental value, design, quality of urban life, and perception of the urban environment.	WIT Transactions on Ecology and The Environment (Google Scholar)	For the citizens surveyed, security is the most important feature, followed by mobility, a wide variety of stores and services, and convenience.	NC-Design: safety and security
S38	Roe et al. (2013)	Green Space and Stress: Evidence from Cortisol Measures in Deprived Urban Communities	urban deprivation; gender; stress; diurnal; saliva; cortisol; neighborhood; green space;	Elsevier (Scopus)	More green space in residential neighborhoods is needed for this underserved urban population of middle-aged men and women.	NC-Design: the need for open space
S39	Hooper et al. (2014)	Evaluating the Implementation and Active Living Impacts of a State Government Planning Policy Designed to Create Walkable Neighborhoods in Perth, Western Australia	Residents of walkable (i.e., livable) communities may be more physically active in accordance with the policy's goals.	American Journal of Health Promotion (Google Scholar)	Walking habits of inhabitants because of government policy (the Livable Neighborhood Guidelines)	NC-Design: activities making physically active
S40	Brody (2013)	The Neighborhood Unit Concept and the Shaping of Land Planning in the United States 1912–1968	Land planning conventions, regulations, and institutions were molded in this period by the neighborhood unit idea.	Routledge (Scopus)	The neighborhood unit idea changed land planning standards by providing substantive information and a normative paradigm.	NC-Design: residential layouts

Table 3 (Continue)

ID	Author(s)	Title of the paper	The outcome of the paper	Source Database	Findings	Parameters extracted NC /QOL
S41	Kesalkheh and Dadashpoor (2012)	Assessment of Residential Environmental Quality of Traditional and New Neighborhoods, in a Rapid-Grown City, Tehran	Residential surroundings can benefit from a more comprehensive evaluation method that utilizes subjective and objective data.	ISOCARP Congress (Google Scholar)	components of the quality of life in a residential environment	NC- Design: evaluation of the residential environment
S42	Auchincloss et al. (2012)	Neighborhood Health-Promoting Resources and Obesity Risk	Altering the residential environment to achieve new healthy behaviors.	Elsevier (Scopus)	healthier behaviors and lifestyles	QOL-related to lifestyle
S43	Cranley et al. (2011)	SCOPE: Safer care for older persons (in residential) environment: A study protocol	strategic planning with involvement from key stakeholders is necessary to ensure the long-term viability of an organization's workforce and infrastructure.	Implementation Science (Google Scholar)	challenges faced in this study include a lack of employee and leadership participation, as well as a lack of infrastructure.	QOL-healthcare
S44	Rioux et al. (2011)	Residential satisfaction among aging people living in a place	Elders' residential satisfaction Neighborhood satisfaction Well-being Aging in place	Science Direct	Several demographic and psychological factors explain residents' contentment with their living situation.	QOL-demographic and psychological variables
S45	Rosso et al. (2011)	The Urban Built Environment and Mobility in Older Adults: A Comprehensive Review	initiative to improve the health and well-being of older individuals in their communities	SAGE (WoS/Scopus)	Mobility constraints are widespread in older persons and raise the risk of bad health outcomes and early death.	NC- Design: mobility in communities

for environmental issues. Green space in the suburbs runs from motorways to sidewalks and encourages community initiatives that foster resourcefulness (Kristiyantoro & Simarmata, 2019).

There have been major benefits to older people’s well-being as a result of the “rolling back” of governmental interference in housing options for the elderly (Robinson et al., 2020). Local mobility is encouraged by neighborhood disadvantage, which weakens the person-environment suit. Disparities in racial groups’ access to safer areas remain even as people age (Riley et al., 2016).

Background noise in the suburbs must be studied more thoroughly to maintain a pleasant quality of life for residents. Traffic

noise has been studied in greater detail, focusing on specific nuisances to lessen their impact on the uncontrolled factors specified in the field of research (Segaran et al., 2020). Other studies have shown that lower cortisol levels are linked to more green urban areas. In addition, there has been a correlation between more open space in suburban communities with less cortisol in this disadvantaged metropolitan group of middle-aged unemployed men and women (Roe et al., 2013). Figure 2 summarizes the twelve most important neighborhood residential environment characteristics that have a substantial influence on the quality of life of the elderly.

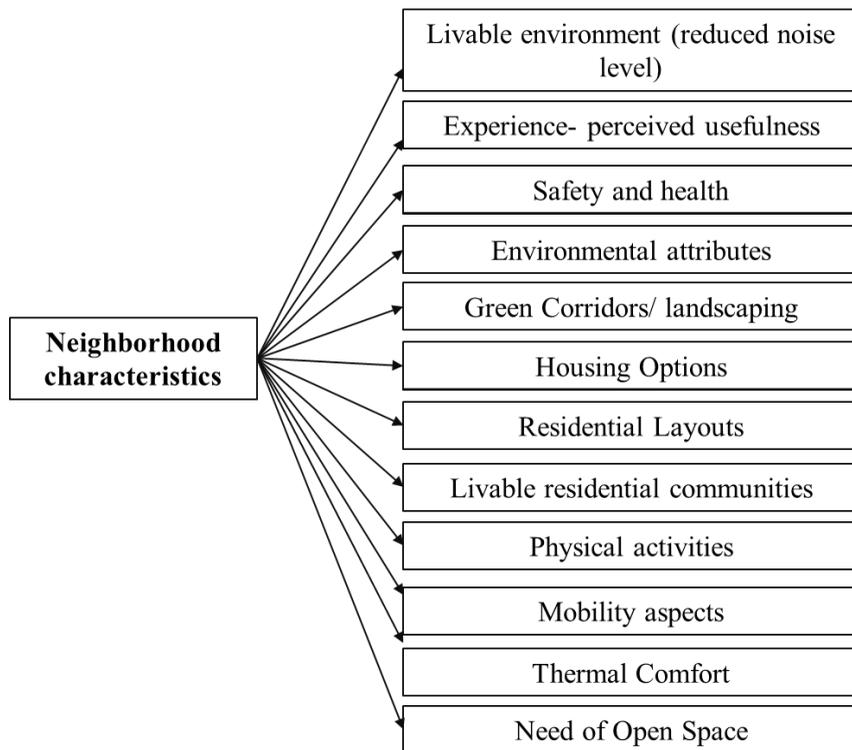


Figure 2. Characteristics of neighborhood residential environments

RQ-2: What are the various attributes of quality of life influenced by the neighborhood's residential characteristics?

Quality of life (QOL) is subjective and multidimensional at the most fundamental level. Because it is subjective, it is better evaluated from the patient's perspective in medical science. Because it is multifaceted, assessing it requires the investigator to inquire about several elements of the patient's life, such as physical well-being, mental capability, cognitive well-being, and social well-being (Kaplan & Ries, 2007). QOL is a term used variably inside and across disciplines. This theory was mostly established by analysis rather than theory construction. From an architectural standpoint, the notion of QOL is linked with built environment qualities that relate it to people's well-being (Theofilou, 2013). The satisfaction of older adults living in cities in terms of livability, convenience, pleasantness, safety, and other relevant social elements is more likely to impact residents' quality of life (Joon, 2020). Gardening activity and biodiversity contribution are determined primarily by the motivation of the gardener and socio-demographic factors that contribute to an active lifestyle for the elderly (Zasada et al., 2020). Other studies concentrate on residential environments, which are more than functionally designed living rooms and must be similarly attentive to the unbuilt, which, in contrast to the building, has a larger role in residents' and users' comfort (Gulati, 2019).

QOL is characterized by a sense of belonging and place attachment, which encourages the elderly to remain active and engaged in their communities (Ochodo et al., 2014). As a result, it creates a sense of community bolstered by security and safety measures. Creating an atmosphere where safe habits and activities are more easily available might be a precondition for keeping and implementing new healthy behaviors (Auchincloss et al., 2012). Rishi et al. (2015) concluded that older persons have a high quality of life in nursing homes since health care is easily accessible. It also implies that older people's personal, social, and environmental well-being is greater than that of their younger contemporaries rather than within their family arrangement. In their studies, Panday et al. (2015) have found that having a supporting family set up for the elderly is essential for quality of life. The interrelationships between built environments, social connections, and community happiness are diverse and heavily influenced by sociopolitical situations (Li et al., 2012).

Many city inhabitants, suburbanites, and rural residents live in neighborhoods afflicted by environmental stressors and disturbances such as pollution, traffic, crime, and insufficient physical fitness, all of which aggravate the beginning of mental disease (Ochodo et al., 2014). As a result, considering the elderly's well-being, the design and planning of a safe and secure residential setup within the built environment are critical. Physical location rather than psychological or

behavioral factors have been found to influence residents' contentment with their homes, according to the research of Rioux and Werner (2011). The four pillars of the study were the surrounding area, utility connectivity, interpersonal interactions, and specific housing. According to the hypothesis that older people have

complicated and subjective assessments of their homes and communities, each variable was related to numerous predictors (Rioux & Werner, 2011). Figure 3 summarizes the numerous facets of QOL that contribute to the satisfaction and well-being of the elderly.

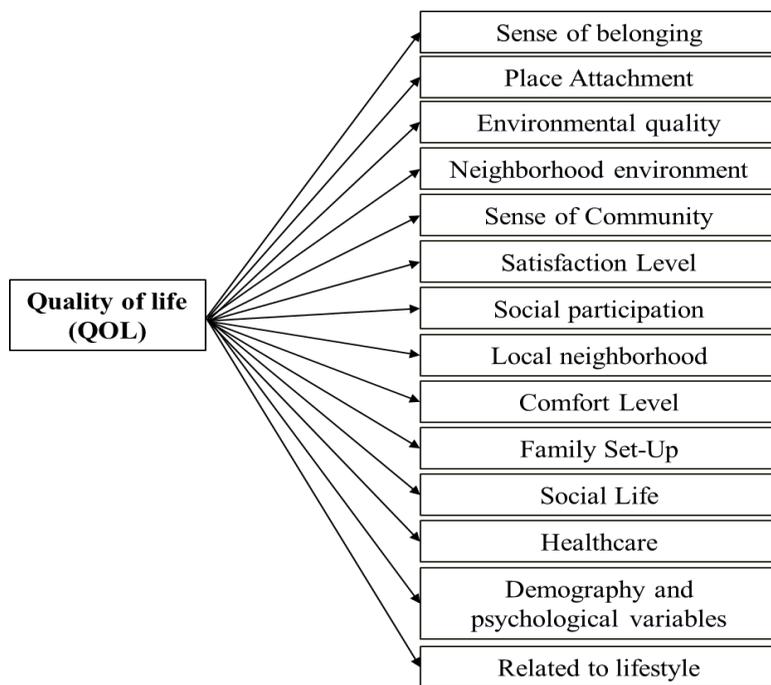


Figure 3. Various attributes of quality of life (QOL)

EVALUATION FRAMEWORK

We developed the evaluation framework by contextually evaluating the factors influencing neighborhood characteristics and quality of life and extracting variables to include gratifying experiences within residential environments to enable older adults to live comfortably and foster a sense of well-being. Two criteria comprise the

assessment framework's categories: quality of life (QOL) and local features (NC). The contextual study revealed that several factors influence the quality of life of the elderly within a community. Social care, chronic comorbidities, gender, outdoor leisure activities, and others were substantially connected with neighborhood characteristics and quality of life. As mentioned in each of

the chosen articles, the purpose of the built environment is to increase the quality of life of older individuals by enhancing their well-being. We discovered the basic components of healthy settings that promote human, psychological, and environmental well-being. Environmental health necessitates considering not just the natural environment but also the social context. As stated in each of the selected articles, the ultimate objective of a neighborhood's livable environment is to enhance the health and well-being of older adults, with safety being one of the most important factors. We determined that the neighborhood elements that have the greatest impact on the quality of life of the elderly are those that foster a feeling of community and belonging via social involvement.

Enhancing comfort level, providing open spaces for them to engage in a variety of physical activities, and developing the place attachment attribute to improve their mobility to these spaces are crucial factors that must be prioritized if the second phase of life for the elderly is to be of high quality. Environmental well-being involves both the natural and social environments and their interrelationships. It is challenging to locate the response to the issue, "an exciting and vibrant space be created for older adults in papers chosen for community outreach," in the published works. Thus, although it may be right to claim that making for a positive environment is vital, it is also necessary to be conceived as one that encourages psychological well-being. Most seniors retain their dignity and self-and decision-

making capacity through the end of their lives. The best method is to do things themselves, with assistance from others, or to get it done by themselves to keep freedom. Elderly adults need to maintain control of their environment, especially when they cannot execute everyday activities because of physical impairments and cognitive deterioration.

Spaces need to be designed to provide affordance with insight to assist with their acceptance and functioning of the smart living world. It is also important to help their physical and cognitive functioning while also allowing them to provide themselves with affordable options. The design of the built environment should show the intimate and intricate connections between the user, the community, and the environment.

The evaluation framework represented through Harvey Balls Method is used to represent the various factors that are inter-related between characteristics of the neighborhood to achieve the quality of life for the elderly is summarized in Figure 4, where the factors and their inter-relationship are rated as "Very Poor," "Poor," "Average," "Good," "Very Good." In addition, all the attributes and characteristics of NC and QOL are listed. Based on each research paper, to qualitatively visualize and rate the subjective experience, the Harvey balls technique is used. For instance, safety and physical activities strongly induce a sense of community belonging and place attachment with a high satisfaction level. It is therefore concluded that inducing safety attributes and spaces for physical activities (NC) through

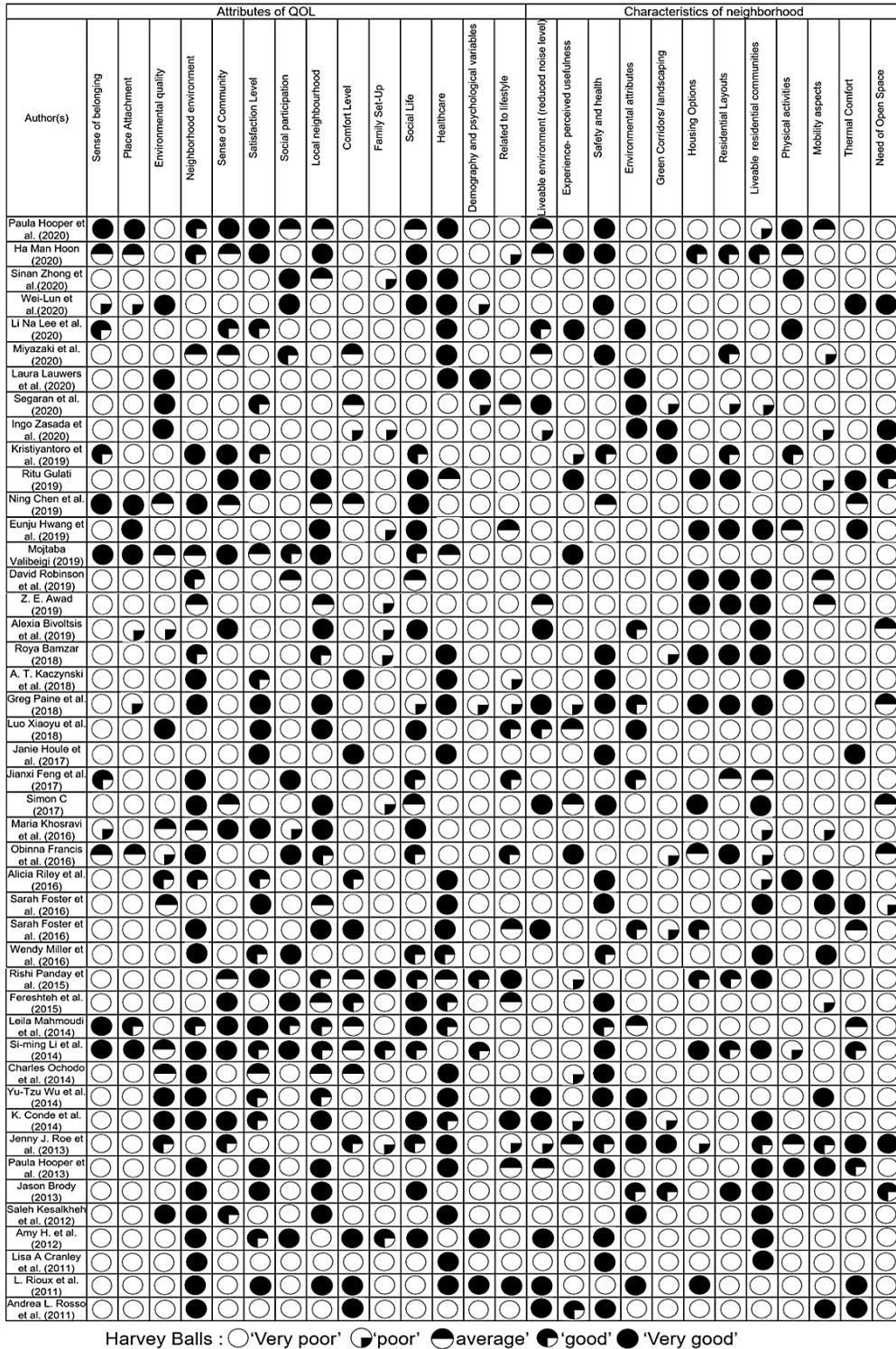


Figure 4. Harvey Balls Method: Inter-related factors of residential characteristics and QOL

design interventions in neighborhood layout facilitates a sense of satisfactory pleasurable experience (QOL) influencing the lifestyle of the elderly.

DISCUSSION

Critical Review on Neighborhood Characteristics Influencing Quality of Life for Elderly

The review reveals that satisfaction with key features of the neighborhood affects QOL through the mediation effect of one's overall feelings towards the neighborhood. That is, satisfaction through health-promoting activities that promote community belonging and the place attachment within a residential setup tends to contribute to one's overall satisfaction with the neighborhood (neighborhood satisfaction), which establishes a positive relationship in overall feelings towards social life (QOL). Likewise, housing satisfaction, in turn, affects home satisfaction, and both home satisfaction and community satisfaction, in turn, affect social life (QOL). Safety measures and open space integration in residential development also help to foster social cohesion (QOL). Residents with a more optimistic view of their area reported higher happiness and contentment in their daily lives. However, our study focused more on social interaction with residents' perceptions of the neighborhood's physical qualities rather than physical characteristics. Physical-environmental factors also influence residents' feelings of community. Variables directly impacting the connection to a residential site include the sense of

physical care and safety in the community. As a result, the physical aspects of a person's home can have a significant impact on their emotional well-being. Residents' quality of life will suffer if forced to live in a less-than-ideal setting. Hence, it is evident that all the aspects of neighborhood characteristics are complementary to the aspects of Quality of Life which is the outcome of the research.

The observation and analysis of the evaluation framework gave us a broad understanding of the neighborhood features contributing to a better quality of life for the elderly. Firstly, good health and social cohesion make a neighborhood-friendly environment within a residential community for the elderly. Conceptual, as well as analytical considerations related to current research, are issues that must be taken into consideration when one wishes to investigate disparities in health at the community level, such as selection, aggregation, various measuring attributes, and the nature of features as objective and dynamic characteristics (Parrott et al., 2020). The living condition encourages social cohesion and, as a result, improves safe life expectancy (Miyazaki & Ando, 2020). Focusing public health care on the most important factors would help mitigate costs and raise community health (Vaezghasemi et al., 2016). It has been revealed from the review that the social life of the elderly is mostly influenced by the comfort level within the built environment, which allows them to socialize. Open spaces establish a positive relationship with social cohesiveness. Therefore, safety and well-

being need to be integral to residential planning to induce social cohesiveness amongst the elderly.

Secondly, “Livable Neighborhoods” are mostly influenced by satisfaction level and a sense of community belonging and place attachment influencing their lifestyle. Various urban planning components correlate with walking, community, and safety-related results, which was compatible with international literature. Instead of recommendations, these structural elements may become mandatory criteria in potential suburban design policies (Hooper et al., 2020). Indeed, there are several aspects in which the standards of the neighborhood and street-based inclusive physical activity (PA) for all age groups can be elevated to a higher degree of attention. For example, it may be useful in socioeconomically diverse communities, as the mobility level and perception of services can affect users’ participation in PA (Kaczynski et al., 2018).

It can also be seen that while residential satisfaction and preference concerns are not motivated by lifestyle, they are not independent of the various lifestyles and are desired by users. Therefore, residential lifestyles can meet all the varied criteria and needs (Xiaoyu et al., 2007). From the review, it is found that contextual settings majorly influence livable neighborhoods. Environmental features like thermal comfort, visual comfort, and psychological comfort are the major indicators that successfully contribute to the quality of life of the elderly. It is also evident through the review that a healthy lifestyle for the elderly primarily

relies upon the amount of time spent on physical activities for their active aging.

Thirdly, the residential layouts in a community establish a strong relationship with social life within the local neighborhood for the elderly. Emotional, mental, as well as physical issues regarding the resident’s well-being must be addressed (Gulati, 2019). Increased sensitivity to environmental factors creates the impact of land diversity and habitat services on human health (Tsai et al., 2020). It has been investigated that perceived residential environment efficiency (PREQ) metrics impact urban local community identity (ULCI). While neighborhood attachment (NA) is an essential component of urban local identification, upkeep and care now establish a local identity more than neighborhood attachment (Valibeigi et al., 2020). Chen et al. (2019) show that residential satisfaction plays a major mediating function between environmental satisfaction and location attachment, implying the significance of residential satisfaction in residents’ attachment-building to place. It is recommended that future designers develop strategies towards making these spaces through creative placemaking concepts to foster a sense of attachment and belonging, considering environmental features which promote elderly well-being.

Fourthly, housing options and residential layouts have significantly influenced the quality of life of the elderly in establishing their social life and health care aspects. More people over 65 currently reside in nursing homes rather than in the housebound

community. Therefore, greater emphasis would be needed on studies involving older people and smart technologies as the population continues to develop. Panday et al. (2015) suggested that the findings lead to a high-quality level for individuals who live in nursing facilities, including monthly checkups by doctors. Those older adults who live in a family community have a higher level of physical, social, and environmental well-being than those who live in a supported facility.

Research that serves a function incredibly well through older adults is how we learned to improve technology-assistive resources and activities to keep them out of danger and strategies for independent existence within a neighborhood (Lee & Kim, 2020). Recognizing housing as more than a means of increasing value is significant, especially considering the well-established and largely acknowledged contribution of housing to health and well-being in old age (Robinson et al., 2020). While discussing the policy proposals that may be utilized to enhance the housing conditions of older people, an emphasis on the aspect that older people should be provided to live in the neighborhoods where they have resided during their adult lives is important (Donald, 2009). It is also evident from the study that neighborhood environments are characterized by the type of residential setup, the type of community the elderly reside in, and the preferred housing options they prefer for their stay. While designing residential layouts for the elderly, it is necessary to consider

the abovesaid features to make their life comfortable and active in their aging.

Fifthly, mobility has been viewed as a noteworthy impact on social life, encouraging safety and security for the elderly whether in open space visits or near a business zone (Farahani & Lozanovska, 2014). Personal safety was affected more by mobility than by expectations of protection. Public health and social well-being are predicted to increase as a result of more people participating in outdoor activities such as cycling (Foster et al., 2016). In order to maintain existing healthy habits and adopt new ones, it may be necessary to alter the home environment in such a way as to make safe habits and activities more widely available (Auchincloss et al., 2012). Although mobility is a crucial factor for the elderly to encourage their physical activity, it is critical to consider the physical attributes of the residential environment incorporating open space features like seating, lighting, street furniture, street width, crossing design, and public toilets and considering the universal design concept to encourage the mobility of the elderly. The spatial planning and the residential layout that facilitates meeting opportunities for the elderly by integrating public open spaces to meet and interact is the third major characteristic of neighborhood planning, contributing to QOL.

Sixthly, socioeconomic health inequalities related to family set-up and their status are the consequence of socioeconomic, spatial, and environmental issues. A longitudinal (cohort) analysis of a

group of individuals' growths over a long enough period is considered realistic but infeasible in gathering health outcomes (Van Kamp et al., 2004). However, the pre-formal pre-researchers possess a sense of culture that can be used to articulate their feelings and suggestions. While time-consuming, the participatory approach provided many public housing inhabitants for contemplation and involvement (Coulombe et al., 2018). Explicitly, women were significantly more undereducated, and a number of them also did unpaid work and thus lacked a sense of security (Farzianpour et al., 2015).

In particular, it stresses the significance of further refining energy policies needed for older people to comply with their individual needs and desires (Miller et al., 2017). Findings also suggested that sustainability benefits can be anticipated primarily in environmental and socio-cultural aspects, especially for urban biodiversity protection and aesthetic green urban spaces, with economic contributions (Zasada et al., 2020). The research suggested that a QoL measure may have more to do with gender and the disparities between men and women. The policymakers of the health sector should focus on societal problems like education, healthcare, and the person's physiological functioning, which eventually contribute to a better lifestyle and quality of life.

CONCLUSION

The review attempts to determine the interdependence of important features of the elderly's neighborhood local environment to guide them to a better living in their

later years. The elderly must become self-sufficient and independent to fulfill all domains of quality of life significantly connected with social care, co-relations, and gender health. The numerous features recognized from the literature from a global viewpoint as important attributes to improve QoL have been identified. According to the review, the most influential component for a good QOL is the elderly's sociability or social life, which is the most crucial aspect that keeps the old active during their aging process. Livable neighborhood surroundings also contribute to QOL because they foster a sense of belonging and place attachment, both of which are QOL characteristics. Mobility variables produce a substantial association between group participation and outdoor activities, as well as geriatric involvement in contributing to QOL. Furthermore, the scope of this research will be in assessing the impact of these attributes on the lifestyle of the overall standard of living in the physical realm for the elderly, as well as how older adults optimize person-environment fit in the face of neighborhood disadvantage, particularly when the option of relocating to a better neighborhood is limited. More research is also required to develop various strategies and design interventions by planners and designers to foster a sense of belonging and place attachment with their built environment, which will enable for leading healthy aging phenomenon, which is the need of the time for the elderly to keep them fit and active in their daily lives.

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Diversity, Adversity, and Inclusiveness: Student Experiences of a Linguistic Landscape

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ABSTRACT

This study examines the display of languages on signs and how this has shaped student experiences of the linguistic landscape on campus. The research site is a Thai University that has conducted English medium of instruction (EMI). As a result of its English policy, the university has attracted students with diverse linguistic and cultural backgrounds. Two main questions are ‘What is the representation of languages on signs on campus?’ and ‘How have Thai and international students’ experiences been shaped by the linguistic landscape?’ Photos of linguistic tokens and semi-structured interviews were taken to gain insight into student experiences and perspectives. The analysis of 815 linguistic tokens revealed monolingual, bilingual, and multilingual signs. While Thai was the dominant language, English was indicated as a lingua franca on campus. The displays of different languages showed the diversity of university members. However, an adverse effect on international students was expressed when their language was solely displayed on signs. Although international students expressed opposition when their language was used in negative signs, bilingual and multilingual signs were generally well received by university members.

Keywords: Bilingual, diversity, linguistic landscape, monolingual, multilingual, signs, student experience, university

INTRODUCTION

Research into the linguistic landscape (or LL) has become one of the key areas in sociolinguistics. The most frequently researched locations are generally tourist attractions, capital cities or city centers (Alomoush & Al-Naimat, 2020; Backhaus, 2005; Singhasiri, 2013), and in all public

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spaces. Institutional contexts, such as educational settings with a certain unique context, have drawn more LL researchers' attention to their linguistic landscape. For example, Gorter and Cenoz (2015) categorized sign functions in multilingual schools in Spain, while other researchers (e.g., Choi et al., 2019; Hynes, 2012; Jing-Jing, 2015; Siricharoen, 2016; Yavari, 2012) focused on higher education institutions.

Landry and Bourhis (1997) are pioneers in introducing linguistic landscapes as a field of study. They stated that the LL study originally focused on language planning, ethnolinguistic vitality, and vitality perception of language minorities. Regarding the theoretical framework of ethnolinguistic vitality, they define the linguistic landscape as, "The language of public road signs, advertising billboards, street names, place names, commercial shop signs, and public signs on government buildings combine to form the linguistic landscape of a given territory, region, or urban agglomeration" (Landry & Bourhis, 1997, p. 25).

This definition has been extensively acknowledged by key researchers in the field (for example, Backhaus, 2005; Huebner, 2006); however, Ben-Rafael et al. (2006) asserted that the definition had overlooked the vibrant nature of LL studies. Accordingly, Ben-Rafael (2009) defined the 'Linguistic Landscape' as a notion referring to the public space marked by linguistic items and the observable languages in a designated area. Shohamy and Gorter (2009) added that LL was the study of

languages that appeared in cities, markets, shops, schools, governmental and business buildings, campuses, beaches, and moving vehicles.

Notably, the language choices of higher education institutions worldwide have been influenced by regional or supranational organizations, for example, the G20 grouping, the EU, and ASEAN, and as stated by Ferguson (2012), their easiest path for their working language is English. The Bologna process under the guidance of the EU, aiming to internationalize European academia, has led to more initiatives among the EU country members. EMI was one initiative adopted to facilitate and increase the mobility of students and academicians in main European universities such as Dutch (Klaassen & De Graaff, 2001) and Swedish universities (Airey & Linder, 2006). Asia, China, Hong Kong, Japan, and Korea have frequently been used as English as a Medium of Instruction research sites (Kam, 2006; Kim, 2011; Rose & McKinley, 2017).

Implementing English as a Medium of Instruction is nothing new since it has been conducted in universities across Europe and Asia. Kuteeva (2020), however, has stressed that each English as a Medium of Instruction context has its practice and can vary in terms of its language regime, order of discourses, and assessment of linguistic resources. In Europe, EMI drivers include globalization and internationalization, student exchange, the market for international students, teaching and research, and staff mobility (Coleman, 2006). On the other hand, the common driver of EMI, as shared by

universities in Europe and Asia, is the globalization or internationalization of academia, such as in Sweden, Turkey, and Japan (Kuteeva, 2020; Pehlivan, 2018; Rose & McKinley, 2017; Söderlundh, 2013). Nevertheless, this cannot establish that they have had the same English as a Medium of Instruction practices, effects, or results.

For example, Söderlundh's (2013) study showed that in a Swedish university with the English as a Medium of Instruction context, English was not always spoken by students and formed local norms for its use. The linguistic environment was highlighted as a local product in the target university, where most students were Swedish. However, in their earliest attempts to internationalize their faculties, Japanese universities saw their English as a Medium of Instruction courses as criticized for aiming exclusively at international students rather than their own. Only after a more recent initiative by Japan's Ministry of Education-Top Global University Project (2014-2023) EMI courses become more inclusive in supporting Japanese and international students (Rose & McKinley, 2017). Beyond the classroom, some Japanese universities, such as Kyushu University, had a committee to manage university signs by including the English language to foster an international atmosphere and address international students' needs (Jing-Jing, 2015).

Implementing English as a Medium of Instruction allows students across the globe to study at MFU and makes this campus more diverse in terms of resources brought by the students. Students' linguistic

backgrounds tend to lead to a multilingual community. According to Gorter (2007), multilingualism is not uncommon, and the diversity of languages has vital implications for individuals and societies. Furthermore, diversity and inclusion are mentioned as keywords related to multilingualism. The differences between different languages and people's ways of communication are generally used to describe language diversity. Additionally, McCarty and Chen (2014) define the term as a resource needed to be supported and preserved; it is a vital condition empowering users or speakers of different languages. In educational settings, language diversity is linked to students' linguistic backgrounds. If their diverse backgrounds are recognized and valued, not only will opportunities rise for their educational inclusion or inclusiveness, but ample linguistic and cultural resources for all involved will become greater in these learning contexts. As emphasized by the United Nations Educational, Scientific and Cultural Organization (UNESCO; 2014), one of the key advocates of multilingual education, multilingualism is a source of both human opportunity and strength.

In the LL study, the displays of languages are examined for the representation of linguistic diversity, the diversity of the language speakers, and the status of the different languages (Cenoz & Gorter, 2006). How certain languages are displayed, on which part of signs, and what message is conveyed can be linked to the language ideologies of the sign agents. The display of a certain language can be a blessing for

certain people; however, the same language, surprisingly, can be perceived as something negative. For example, many consider English as an international language, a language of globalization, or a vital tool to gain access to information and services, the opportunity for employability, and world knowledge, but others find it a threat to other languages (Phillipson, 1992) or, the diversity of languages.

Globalization has driven higher education institutions worldwide to develop various initiatives to catch up with technological advancement and the changing world. Like other universities, language education policy is one of the key initiatives of Mae Fah Luang University, the research site of the present study. MFU has conducted English medium of instruction (EMI) to achieve its internationalization mission in 11 schools out of its 15 schools. This policy has established an interesting research site that has attracted students from other countries in the same region and beyond. While EMI is expected to support students' learning, outside the class, languages on signs in the university are meant to support students' daily lives and enrich their learning experience on campus. Hence, the present research aims to explore the influences of the linguistic landscape through student experiences of the displays of languages, the information, the instructions, and the messages provided on campus signs. The understanding of how signs and languages on signs affect students' lives and shape their experiences could provide insight and information for further

support or development of constructive communication through the modification of LL.

METHODS

Research Site

Mae Fah Luang University Chiang Rai campus is in northern Thailand, where three countries, Laos, Myanmar, and Thailand, converge. Established in 1998, this comprehensive medium-sized university has six missions, one of which is to promote the university's internationalization (Mae Fah Luang University, 2017). Accordingly, its main language policy, English as the medium of instruction, has been implemented for over two decades. As a result, it has increased staff and students with nationalities other than Thai.

In 11 out of MFU's 15 schools, the medium of instruction is English, while four schools, namely, the School of Health Sciences, the School of Law, the School of Nursing, and the School of Dentistry, offer their instruction mainly in Thai. In 2018, of all 1,818 university staff, 721 were academic staff, and among them, 611 (84.74%) were Thai, and 110 (15.26%) were of other nationalities (see Table 1).

The number of international students between 2014 and 2018 increased from 150 (3.35%) to 229 (6.43%; Division of Registrar, 2018). In 2018, of all 3,560 students, 3,331 were Thai, and 229 were international. Table 2 shows their country of origin, ranging from neighboring countries to those in North America. Of all 229 students, the largest number was 83 (34%) Chinese,

Table 1
Academic staff and country of origin in the year 2018

Continent/country	Lecturers	Volunteers	Visiting scholars	Total
1. Asia	28	46	6	80
Japan	4	-	1	5
Bhutan	1	1	-	2
Malaysia	1	-	-	1
Korea	2	-	2	4
China	10	35	-	45
Philippines	-	1	1	2
Sri Lanka	1	-	1	2
Vietnam	-	-	1	1
Myanmar	1	-	-	2
India	1	-	-	1
Indonesia	6	9	-	1
Uzbekistan	1	-	-	1
2. Europe	6	1	6	13
Norway	1	-	-	1
Belgium	-	-	1	1
Spain	1	-	-	1
Germany	1	-	1	2
UK	2	-	1	3
France	1	-	1	2
Austria	-	-	1	1
Hungary	-	-	1	1
Greece	-	1	-	1
3. Australia and Pacific Islands	-	-	5	5
New Zealand	-	-	3	3
Australia	-	-	2	2
4. North America	6	3	2	11
Canada	1	1	-	2
US	5	2	2	9
5. Africa	-	-	1	1
Mauritius	-	-	1	1
Total	40	50	20	110

Table 2
Number of international students categorized by country and degree in 2018

Country	Number of students by degree			Total
	Bachelor	Master	Doctorate	
Bhutan	13	1	-	14
Cambodia	-	1	-	1
Cameroon	1	-	-	1
China	76	6	1	83

Table 2 (continue)

Country	Number of students by degree			Total
	Bachelor	Master	Doctorate	
Czech Republic	3	-	-	3
France	2	-	-	2
Germany	1	-	-	1
Hungary	1	-	-	1
Indonesia	10	2	1	13
Japan	6	-	-	6
Korea	6	-	-	6
Laos	-	-	1	1
Malaysia	7	10	-	17
Myanmar	54	-	-	54
Nepal	-	3	-	3
Philippines	5	-	-	5
Singapore	1	-	-	1
Slovakia	1	-	-	1
United Kingdom	2	-	-	2
United States of America	2	-	-	2
Vietnam	11	-	-	11
Yemen	1	-	-	1
Total	203	23	3	229

followed by 54 (24%) from Myanmar, 17 (7%) from Malaysia and 14 (6%) from Bhutan. Accordingly, the university needed to be prepared to deal with the increasing number of international students.

Samples of Signage

three areas of consideration were employed to ensure the data collection's validity, as proposed by Backhaus (2007). These included the geographic limits of the target areas, a clear determination of the signage, and the differentiation of various types of signage. In the present study, the target areas represented the living areas (a dormitory, canteens, and buildings that support students' living) and studying areas (a library, building blocks containing

classrooms, and offices). In addition, the photos included signage along the roads, pathways, and corridors, for example, inscriptions on the buildings, plate names on the shops, signboards at the parking spaces, buildings names, posters, commercial adverts, notices, or announcements on the bulletin boards.

After the data collection, pictures of signs were printed for area grouping and screening of the photos. Some were excluded because of the quality of the signs, especially when the signs were in a damaged condition. In addition, some signs required a second photograph since the language used on the signs was unclear, out of focus or incomplete. Afterward, 815 signs were kept for further analysis in this project.

Research Instrument

A digital camera and smartphones were employed to gather the data for the research as technical support in obtaining sign data, while semi-structured group interviews collected student experiences.

Digital Camera and Smartphone.

Generally, digital cameras are commonly used for photographing signs in specified areas. Although new tools, such as *LinguaSnapp*, have been developed to document linguistic landscapes (Gaiser & Matras, 2016), cameras are still common support for LL studies. In this study, apart from a digital camera, smartphones were also used because of their capacity and the quality of the photos, which were comparable to those of a digital camera.

Semi-Structured Interview. The present study used the semi-structured group interview since it was considered appropriate for further illustrating the findings of sign data. In addition, it provided a relaxed atmosphere for students, so sharing experiences among participants could remind them of their own experiences.

The interview section of this study was voluntary. After the announcement seeking volunteers, eight students, consisting of seven international students and one Thai student, volunteered to participate in the interviews. Interviewees were from bachelor's and master's degree programs and represented international and local students, with one each from Myanmar, Nepal, and Thailand, three from Cambodia,

and two from China. Their fields of study covered the science and social science disciplines.

The content areas and questions of semi-structured interviews were mainly developed from the research objectives and relevant studies (Jing-Jing, 2015; Yavari, 2012). The two main areas of the interview were to determine how the signage influenced (1) the student's lives and (2) the student's studies. Three experts then evaluated the item-objective congruence (IOC) to ensure its validity. Finally, two items with the lowest IOC value (0.66) were revised based on the experts' suggestions. Afterward, a pilot test of the questions was conducted in English with two students, one Thai and one Chinese representing both local and international students so that the ambiguity of the interview questions was reduced. Some examples of the interview questions are as follows:

1. What language is often used on MFU Campus signs or signboards?
2. What language do you think is important or necessary for students studying on the MFU campus? What are the reasons for your answer?
3. What language is important or necessary for the student's daily life on this campus? What are the reasons for your answer?
4. If you get a chance to choose languages used on signs or notices on this campus, what languages will you choose?
5. In what order will you put them

on a sign? Please explain why you think they should be in the proposed order.

Data Collection Procedures

Photos of campus signs were collected in both living and study areas in the second semester of 2018 after permission was granted. The analysis of the sign data and the emergence of some key issues were employed to develop interview questions further. Subsequently, semi-structured group interviews were conducted, and student volunteers chose the date that they were free to join two separate group interviews. The interviewer gave a brief, casual introduction to the study, showed appreciation for the interviewees’ participation, and ensured anonymity. Volunteers were also informed of their rights; for example, they were not required to if they did not feel comfortable answering certain questions.

Data Analysis

The data were analyzed using a script-based approach, i.e., the signs were first categorized by script, which refers to the languages displayed on the signs. Then, as suggested by Gorter (2006), a sign coding scheme covers the investigation of how a language appears on the sign, where it is placed, what size and how many languages are included, and the order of languages displayed on bilingual or multilingual signs, and the importance of languages. In this study, the data were categorized into three groups: monolingual, bilingual, and multilingual. Monolingual signs refer to a

sign containing one language, and bilingual signs are signs containing two languages. On multilingual signs, more than two languages are included.

The analysis of the interview data involved organizing the data into manageable units, identifying themes, and drawing a conclusion. In identifying themes, the researcher adopted the steps of thematic analysis as offered by Braun and Clarke (2006), which included familiarizing with the interview data, specifying preliminary codes to the data, seeking patterns or themes in the codes, reviewing themes concerning the research questions, naming themes and quoting relevant data before writing up a conclusion.

RESULTS

Display of Languages

The analysis of 815 pictures, including signs, posters, notices, and documents posted around selected areas on the campus, was conducted to answer research question 1, “What is the representation of languages on signs on the campus?” It was revealed that the most frequently found signs were monolingual (n=446, 54.72%), followed by bilingual signs (n=349, 42.82%), and multilingual signs (n=20, 2.45%; Table 3).

Table 3
Type of signs based on the display of languages

Type of signs	Number of signs	Percentage (%)
Monolingual signs	446	54.72
Bilingual signs	349	42.82
Multilingual signs	20	2.45
Total	815	100

As seen in Table 4, of the 446 monolingual signs, Thai was used on monolingual signs the most (n=248, 55.73%), followed by English (n=194, 43.37%), and Chinese (n=3, 0.67%). It is likely to reflect the key status of the national and official language, while the status of English was also well observed since it is the second most frequently used language on campus signs. Regarding

bilingual signage, of all 349 bilingual tokens, the majority were Thai-English (238, 67.44%), followed by English-Thai (98, 28.48%) and Chinese-English (6, 1.71%). Just as in the monolingual signs, pairing the display of English with other languages such as Thai and Chinese showed its vital status on campus. Besides, an analysis of 20 multilingual signs revealed that the Thai-

Table 4
Types and languages displayed on campus signs

Types of signs	Languages	Number of signs	Percentage (%)	Grand total (%)
Monolingual signs	Thai	248	55.73	
	English	194	43.37	
	Chinese	3	0.67	
	French	1	0.22	
Total		446	100	446 (54.72)
Bilingual signs	Thai-English	238	67.44	
	English-Thai	98	28.48	
	Chinese-English	6	1.71	
	Thai-Chinese	3	0.85	
	English-Chinese	2	0.57	
	English-French	2	0.57	
Total		349	100	349 (42.82)
Multilingual signs	Thai-Chinese-English	7	35	
	Thai-English-Chinese	5	25	
	Chinese-Thai-English	2	10	
	English-Spanish-French	2	10	
	English- Burmese -Thai	1	5	
	English-Chinese-Thai	1	5	
	English-Thai-Chinese	1	5	
	Chinese-English-Thai	1	5	
	Total		20	100
Grand total				815 (100)

Chinese-English sequence was found the most (7, 35%), followed by Thai-English-Chinese (5, 25%) and Chinese-Thai-English (2, 10%). Regarding the combination of languages that appeared on the tokens, Thai, English, and Chinese shared their parts as the top three on multilingual signs.

In Figure 1, examples of monolingual signs are displayed: (a), (b), and (c) are Thai, while (d), (e), and (f) are English and Chinese, respectively.

Figure 2 shows five bilingual signs or five language pairs, including (a) Chinese-English, (b) Thai-English, (c) Thai-Chinese,



Figure 1. Examples of monolingual signs

(d) English-Burmese, and (e) English-French, respectively.

Figure 3 shows multilingual signs or signs that contain more than two languages. The first one, (a), contains Thai, Burmese,

and English. The other three, (b), (c), and (d), contain the same languages, although the order of languages in (b) is different from (c) and (d), which begin with Thai.



Figure 2. Examples of bilingual signs



Figure 3. Examples of multilingual signs

Language Issues

Two language issues were indicated. Firstly, it was found that some signs contained errors or typing mistakes. For example, when two languages were displayed on a sign and were meant to deliver the same message, typographical errors sometimes occurred, distorting the intended message. Secondly, it was also revealed that there were attempts to address people from different linguistic

backgrounds by using different languages on the signs; for example, Pinyin or Chinese Romanization was also used on signs. It was an example of how the pronunciation of a Chinese word was written using the Roman or English alphabet. In Figure 4, the English script was used to write the phrase “Thank you” and “Xiexie,” which also means “Thank you” in Chinese.



Figure 4. Use of pinyin or Chinese romanization

Student Experiences of the Linguistic Landscape

The interview account, based on student experiences and their viewpoint toward signs on campus, revealed five key issues.

Student Navigation on Campus.

In their first year at the university, local and international students were assisted in navigating the campus using a basic map provided by the university. They had no problem understanding the directional signs because they were in English, and many included universal symbols. However, due to the hilly grounds of the university, some students suggested that the map of the university should provide more details. For example, the map should have specific wording such as ‘You are here.’ Along the way, signposts should display where different routes converge or link as a shortcut.

Apart from directional signs, students’ experiences revealed that additional information is needed, for example, availability, accessibility, and the price of transportation, as reflected below:

I can read Thai, but I did not know there was a green bus that could pick us up to go around campus because there was no information. And I even tried to pay for the university’s free bus the first time.
(Bachelor in English, Myanmar)

Hence, during the first year on campus, students, especially those whose first language was not Thai, needed sufficient

English information to help them through the initial transitional stage on campus. Though the university has prepared an orientation pack for newcomers, some students may not get it until they join the orientation opening ceremony.

Inclusiveness or Exclusiveness: Language Choices on Signage.

Sign language choices were indicated as a factor in including or excluding students from joining university activities. Some international students stated that they missed many of the university activities in their first year because the English version of the activities’ announcement was not seen. They suggested that both Thai and English versions of the activities that first-year students are required to attend should be provided. An English majored student said that she normally found both Thai and English versions in her department. However, she assumed that some announcements were in Thai only due to a small number of international students in certain fields. It was consistent for two students who shared their frustration because they belonged to smaller groups of university members. One of them stated:

I am the only (international student) in my batch... If it is in Thai, everyone is shocked. We would be like, ... What happened? Could you translate that for us? (Bachelor in Food Technology, Nepalese)

Thus, apart from the Thai version, English was considered the most important in accommodating international students.

While official announcements were available in both Thai and English versions, those produced by individual members of the university, such as staff or students involved with student activities, were mainly in Thai.

Language and Order of Significance.

Regarding what languages should be displayed on signage, all interviewees agreed on the significant role of English as a lingua franca; thus, apart from Thai, English is the second most important language on campus signage. However, they consider Chinese as the third ranked language due to the increasing number of Chinese students and teachers studying and working on campus.

I think English is enough because it is used worldwide. If it is in English, we can check our dictionary...All children currently can read English.
(Bachelor in Cosmetic Science, Chinese)

Concerning the order of the languages to be shown, some students thought the presentation order did not matter if all key languages were present. However, other participants thought Thai should be the first language, followed by English and Chinese. This order is determined according to the status of each language, Thai for its national status, and English for its international status. However, Chinese is included to address the largest number of foreign members of the university.

Thai first, but English should be second because I think English

is more well-known. Chinese is important, but I think it should be the third. Many foreigners can read Chinese, but I think more Chinese can read English. (Master in English, Chinese)

Diversity or Adversity. Seeing one's language in another country can lead to a negative feeling for some students when the message prohibits them from doing something on campus. However, two participants stated that the appearance and order of languages did matter due to the message conveyed by the signs or notices. For example, a Myanmar student and a Chinese student stated that if the message shown on a sign carried a prohibition message, it was more likely that the sign would be perceived as offensive by the speaker of that language.

I saw a sign in Burmese. It says, "Do not smoke." The language used would be considered informal in Myanmar. It is very strong, very harsh. Not suitable to use... So the idea in making the sign, I think, all languages should be put on the same sign...like Chinese, Thai, and Burmese in the same place.
(Bachelor in English, Myanmar)

Students explained that their attitudes towards seeing their language displayed on signs were more positive if the message was aimed at giving general information such as giving directions or providing information or notifications. Thus, the message provided

on signage should be considered when determining what order the languages should be presented. For example, when messages conveyed a warning or prohibition, Thai and English were considered appropriate, as the first was the national language, while the latter was the lingua franca.

Errors on Signs. Students indicated that they found some errors on signs in their English, Chinese, and Burmese versions. One observation was that signs with errors were not official and were produced by some university members, such as individual staff or students, to address certain issues or problems. A student was concerned that other students might take that as the correct way to use a foreign language and would repeat the same mistake.

... I think they were not official... I am afraid some students with a limited understanding of English may keep that in mind and practice using it. (Master in English, Cambodian)

According to this student, mistakes and errors should be avoided by having someone check the language used so that students in the university would have correct examples of different languages. For example, students' experience of errors or mistakes found on signs followed the analysis of signs on campus. Additionally, student experiences indicated that mistakes are found not only in English but also in Chinese.

DISCUSSIONS

The Display of Languages on Campus Signs

The display of languages on campus signs was identified as monolingual, bilingual, or multilingual. The findings showed that the dominant language in specified areas was Thai, and Thai-only signs were common on the MFU campus, emphasizing the national and official status of the language. The same case was also found in a Japanese university in the LL study by Jing-Jing (2015), who surveyed the linguistic landscape on the Ito campus of Kyushu University, Japan, and found Japanese-only signs to be the most common. To a certain extent, the use of national or official languages on the two campuses could reflect the identities of the universities in monolingual countries such as Japan and Thailand.

Thai-English bilingual signs were the most frequently found, followed by English-Thai and Chinese-English signs. Likewise, Yavari (2012) found that English was the most visible language on campus signs apart from the official language of each university under study. Cenoz and Gorter (2012) stated that this resulted partly from an increased intake of international students at these universities. However, it also reflects the same situation in the university under study, accommodating increasing numbers of international students and lecturers.

Elsewhere, regional or international cooperation is a driving force for adopting certain languages on campus signs. In Europe, for example, to achieve the objectives of the Bologna process, English

was adopted in academia among European country members (Ferguson, 2012). Similarly, in Asia, English is a working language of ASEAN country members; thus, it has been adopted as the language of interaction. Accordingly, English language courses are required at MFU, and the prominent policy that allows opportunities for contact and the mobility of students and staff members with different cultural and linguistic backgrounds is that English is the medium of instruction.

As noted in Yavari's (2012) comparative study of a Swedish university and a Swiss university, the dominant languages found were the national languages, Swedish and German, respectively; English was indicated as having priority over other foreign languages. Its high visibility in these two universities has portrayed the widespread use of English in academia, which is also true at MFU.

Regarding multilingual signs, Thai-Chinese-English signs were found the most (7, 35% signs), followed by Thai-English-Chinese (5, 25%) and Chinese-Thai-English signs (2, 10%). Of all the signs that were examined, the lowest quantity was multilingual signs; it was evident that these three languages, Thai, English, and Chinese, are vital for their roles as the national language, the lingua franca, and the language of the largest group of foreign university members. Similarly, the interview account revealed that, apart from Thai and English, Chinese was the next most important language to be displayed on the signs.

Language Issues

Errors and mistakes could frequently occur when a language other than the native language was used on signs in countries whose native language was not English (Al-Athwary, 2014; Guo & Li, 2015). Guo and Li (2015) studied errors in Chinese-English public signs in Changchun, an economic and cultural spot in China, and argued that mistranslation in public signs needed immediate attention. They stressed that public signs accommodated people's daily lives and foreign visitors during their stay in China. It can be the case for a campus where not only local students but also international students will need a smooth transition into university life. Hence, linguistic tokens can play a key role in this regard.

Student Experiences of Signs on Campus

First, signs with the informational function needed to be in English, as they were vital for the first-year students' transition into campus life. Student interviewees mainly agreed that an English version for all signs is necessary. Regarding the MFU case, to provide more support to all students, the English version of signs is essential, as it is recognized as the dominant world language (Huebner, 2006), and its prestigious and international status is recognized all over the world (Ricento, 2015).

Second, providing the English version of signs on campus enhanced students' inclusiveness. International students have stated a desire and expectation to interact with their domestic peers (Deakins, 2009;

James & Watt, 1992). Therefore, it was essential to encourage international students' participation in university activities. In addition, it can show that universities are aware of students' needs, especially those with different linguistic and cultural backgrounds. Kyushu University, for example, attempted to be responsive to international students' needs by setting up a committee to include English in all university signs (Jing-Jing, 2015). It is one strategy this university employed to internationalize its campus.

Third, Thai, English, and Chinese were indicated as having key roles in signage as a national language, a lingua franca, and the language of the largest group of foreign residents, respectively. It reflects that the campus has become more diverse and must meet the needs of existing students. Not limited to the educational setting, many scholars consider language diversity essential. For example, Phillips (2011) stressed that language diversity is entwined in life's biological and cultural diversity, while Crystal (2000) highlighted that language needed to be promoted due to its relation to ecological diversity, identity, history, and human knowledge. As stated by Maffi (2005), a lack of language richness is related to a lack of cultural richness. Thus, linguistic diversity probably benefits an educational setting such as MFU. From an ecological perspective, people's views of bilingualism, multilingualism, and linguistic diversity can be either enhanced or inhibited by the display of languages in the LL (Phillips, 2011). Hence, the university may need to consider this when deciding on

signage management concerning key issues such as language choice, emplacement, and information.

Fourth, messages on signs could lead to students' negative attitudes towards the sign author, specifically, the university. It depends on language choices and other factors, such as the placement of signs, which Scollon and Wong Scollon (as cited in Mautner, 2014) highlighted as a phenomenon where the texts and their immediate physical setting are regarded as a whole in processing the message. Mautner (2014) stated that texts are unusual because their meaning and performative potential are partly drawn from exophoric references to their physical setting. It indicates how all components need to be thoughtfully designed and constructed. As reflected by Chinese and Myanmar students, the texts with prohibition messages displayed solely in their languages on campus signs seemed to target them negatively; hence, they perceived a prohibition sign written in their languages as offensive. Therefore, language choices and placement of signs needed to be vigilantly decided. Since English is generally considered neutral for in-group relations where people from different linguistic backgrounds come into contact (Rubdy, 2001), it can be a suitable choice of language to avoid triggering readers' negative attitudes.

Finally, the languages used in the signs need proofreading before posting to promote the accurate use of languages on campus. The interview results raised concerns about linguistic items with mistakes and errors that could lead to misunderstandings and

misuse of languages. According to Guo and Li (2015), when language errors occur, they potentially affect the international image of the sign's author. Therefore, in educational institutions, errors and mistakes should be reduced as much as possible on signs. As Ferguson (2016) put it, "English is perceived as a gatekeeper to accessing education and employment; thus, competence in English and English medium education is greatly valued by educational stakeholders such as parents -to build linguistic capital" (p. 185).

CONCLUSION

Future research might wish to extend the existing scope by including other stakeholders. Educational settings are generally viewed as small; however, their unique environment can be a rich source for a research study. Thus, it is recommended that more studies be conducted regarding the university's language policy, the functions of signage, and the perceptions of all people involved in educational contexts. Accordingly, more insights can be gained from research in higher education institutions or educational contexts influenced by internationalization or globalization.

Recommendations

This study has highlighted the importance of the visibility and distribution of languages on campus signage. By adding the experiences of students or sign readers to the study, critical issues were revealed and triangulated. As a synchronic study, it was expected that the findings could be used as a basis for further comparative studies.

In terms of pedagogical applications, signs displayed in different languages are a valuable source for teaching and learning. Due to its authenticity, teachers must be selective in choosing signs or texts displayed as cases for study in class. Moreover, teachers can raise students' awareness of diversity regarding linguistic and cultural resources observed on campus. Students are encouraged to draw understanding and awareness from school settings where their members with diverse backgrounds come into contact (Gorter & Cenoz, 2006). Teachers, students, and researchers are encouraged to use this linguistic and culturally rich environment as an opportunity to foster intercultural awareness and skills.

For policymakers or policy planners, the findings in the present study suggest that formal written regulations detailing language choices, production, and usage of signs on campus is key in addressing critical issues such as students' transition, inclusiveness, and attitudes. Mistakes and errors in using foreign languages in both English and Chinese were evident on signs. Hence, policymakers need to consider the extent to which these might affect students' experiences, image, and the internationalization or globalization process of the university. The findings were expected to provide useful information for policymakers in examining or planning a language policy and its implementation on campus so that students with different cultural and linguistic backgrounds are well addressed and supported.

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Review Article

Appraisal Theory in Translation Studies—A Systematic Literature Review

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ABSTRACT

Appraisal theory (AT) is developed from Systemic Functional Linguistics. It focuses on the interpersonal meaning of the text, which expresses the speaker's attitude and constructs ideological space. However, AT has developed quite lately in translation studies with certain achievements as well as limitations in the previous studies. Thus, this study conducted a literature review to generalize the status quo of studies applying AT in translation from 2011 to 2021. The method of this study is a systematic literature review that selected 27 articles from three databases based on the screening procedure of PRISMA 2020. It also used qualitative synthesis to analyze the contents of the included studies in terms of genres, research foci, application of AT as well as methodologies. This study finds that AT is widely used in analyzing translation shifts, especially in the text types of politics, news and literature with the foci of appraisal shifts, ideology and positioning. However, the number of translation studies applying AT is still limited, and there is potential to examine AT in other text types. Besides, there is also a lack of mixed method or corpus-based analysis. Therefore, this study provides a detailed review of AT in translation studies and reveals some research gaps that could enlighten future studies.

Keywords: Appraisal theory, genres, interpersonal meaning, methodologies, PRISMA, research foci, systematic review, translation studies

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INTRODUCTION

Since discourse analysis was applied in translation studies, Systemic Functional Linguistics (SFL) has been widely used in translation analysis as it can be applied

as the model to analyze both source text and target text and compare them at the sociological, generic, registerial, discoursal and lexicogrammatical levels (Eggins, 1994). This kind of discourse analysis helps explain and evaluate translation phenomena (House, 1997) and can also be used to explain and predict the problems that might occur during translation (Bell, 1991). Appraisal Theory (AT) is proposed by Martin and White (2005) based on SFL, which is a new perspective on translation studies and focuses on the interpersonal meaning of the text. According to Halliday (1970), there are three text metafunctions: ideational, interpersonal, and textual. Ideational meaning concerns construing experience, including a narrative of things and happenings of the world, which is realized by experiential and logical meaning (Martin & White, 2005). Interpersonal meaning refers to the interaction between speaker and receiver, while textual meaning refers to the organization of ideational and interpersonal meaning as a flow (Halliday, 2009). Among the three metafunctions, ideational meaning is the priority for translators in the demands of equivalence, and most translation studies focus more on this part because it evolves important information, and it is easier to judge the accuracy of the translation (Halliday, 2009). However, interpersonal and textual meanings have been paid less attention to or even neglected (House, 1997; Munday, 2012a).

With the development of translation studies, there is a growing interest in interpersonal and textual meaning. AT

is directly used to extend the model of interpersonal meaning. It expresses the speaker's attitude toward the subject matter of his discourse and constructs the ideological space where it positions both speaker and receiver in a dialogic movement (Munday, 2012a). Martin and White (2005) have proposed a detailed categorization for appraisal analysis. There are three domains of appraisal: (1) attitude, which expresses our feelings, judgments, and evaluations of things or behavior, and it can be either positive or negative; (2) engagement which refers to the intersubjective positioning between text producer and receiver; and (3) graduation which graduates attitude. Each domain also has several categories and subcategories. In order to have a better understanding of appraisal, a brief introduction of appraisal resources is presented in Table 1, in which some names of categories or subcategories will be mentioned in the section of findings and discussion.

AT is applied in translation studies to evaluate the equivalence of interpersonal meaning and to analyze the translation process from a stance-oriented perspective (Y. Wang & Zhou, 2018). Some studies (see, for example, T. Li & Xu, 2018; Munday, 2012b, 2018; Pan, 2015; Qian, 2012; White, 2016) have already examined the feasibility of AT with different text types in translation studies. For instance, Munday (2012a) believes that AT provides the means to highlight the translators' lexical intervention and evaluate its effectiveness. Pan (2015) tests AT helpful for analyzing the evaluation and ideology in news translation. Besides,

Table 1
Appraisal resources (based on Martin & White, 2005; Munday, 2015)

Domain of appraisal	Category	Sub-category	Value
Attitude	Affect	Happiness/security/ satisfaction/ inclination	Feelings and emotional reactions
	E.g., The captain felt sad . (affect>happiness>negative)		
	Judgment	Normality/capacity/tenacity/ veracity/ propriety	Of ethics, behavior, capacity
E.g., He was an honest player . (judgement>veracity>positive)			
Engagement	Appreciation	Reaction/composition/ valuation	Of things, phenomena, reactions
	E.g., It was a fascinating inning. (appreciation>reaction>positive)		
Engagement	Monogloss		Single-voiced
	E.g., The banks have been greedy.		
Engagement	Heterogloss	Contract: disclaim/proclaim Expand: entertain/attribute	Recognition of dialogistic alternatives
	E.g., I think the banks are greedy. (heterogloss>expand>entertain)		
Graduation	Force	Quantification/intensification	For intensity and amount
	E.g., I was slightly sad . (force>intensification)		
Graduation	Focus	Sharpen/soften	For categories not scalable
	E.g., They play jazz, sort of . (focus>soften)		

White (2016) demonstrates that AT can be applied to show the different attitudinal potentials in different translations. Although AT has certain achievements in translation studies, its application is limited, but it still has much potential. Tajvidi and Arjani (2017) once pointed out that the application of AT has not been precise and complete enough, and the coding criteria and procedures are not transparent. Moreover, there is also a lack of literature review since AT has developed lately in translation studies. Apart from Tajvidi and Arjani (2017), who reviewed some studies between 2006 and 2017, only a few researchers are reviewing the application of AT (Cheng & Gong, 2019; Liu, 2010; Y. Wang & Zhou, 2018).

However, these reviews focused more on AT in linguistic studies than translation studies, and the number of reviewed studies in translation was very small without detailed discussions. As a result, the comprehensive research situation of AT in translation studies is not clear enough. Therefore, a systematic literature review is very much needed to generalize the latest research trend of both the achievements and limitations to provide suggestions for future studies. Thus, this study aims to review AT in translation studies from four aspects, including genres, research foci, application of AT and methodologies, to answer the following research questions: (1) What is the status quo of AT in translation studies? (2) What are the limitations of the previous studies?

METHODOLOGY

This study adopted the systematic literature review method, which aimed to provide a comprehensive overview of the current literature and synthesize the synthesis of findings (L. Wang et al., 2020). Therefore, it firstly searched papers through the keywords of titles, abstracts or contents in different databases and then screened the papers following PRISMA 2020 (Page et al., 2021). At last, it analyzed the contents of included articles and synthesized the findings in terms of genres, research foci, domains of appraisal, and methodologies.

Databases

In this study, three databases were chosen to ensure the full coverage and enough number of the reviewed studies. The databases were Scopus, Web of Science and ScienceDirect because of their large number of indexed resources and precise search engines. Besides, there were also some studies found through other sources, including those searched on Google Scholar by accident and those, searched through references of relevant articles.

Study Selection

In order to search for relevant studies, keyword searching was applied for the topics, titles, and abstracts that contained the search words. With the consideration of research questions and the content of the appraisal, the searching keywords were decided as “translation” AND “appraisal theory” OR “evaluative language.” As mentioned before, the research on AT in

translation developed quite late, and it mainly started in 2012 (Tajvidi & Arjani, 2017). Since only one article was found in 2011, we included it and selected the search results in three databases from January 2011 to December 2021. In addition, some other criteria were also considered so that the selected studies were eligible for this literature review. First, the language of the articles was English only due to the authors’ language competence. Secondly, books, book chapters and conference papers were excluded because they lacked rigorous review. The inclusion and exclusion criteria are summarized below. Figure 1 shows the procedure of identifying and screening studies guided by PRISMA 2020.

Inclusion and Exclusion Criteria

The inclusion criteria are (1) articles applying AT in translation studies, (2) journal papers, (3) articles published in English and (4) articles published from January 2011 to December 2021. The exclusion criteria involve (1) articles irrelevant to translation studies, (2) articles not applying AT as a theoretical or analytical framework, (3) books, book chapters and conference papers and (4) articles not published in English.

Screening Result

According to Figure 1, the keyword searching identified 422 potential articles from the three databases and other sources. Then, the screening for excluded records was mainly based on the titles, abstracts and languages of the articles and this step crossed out most irrelevant studies. However, the last step

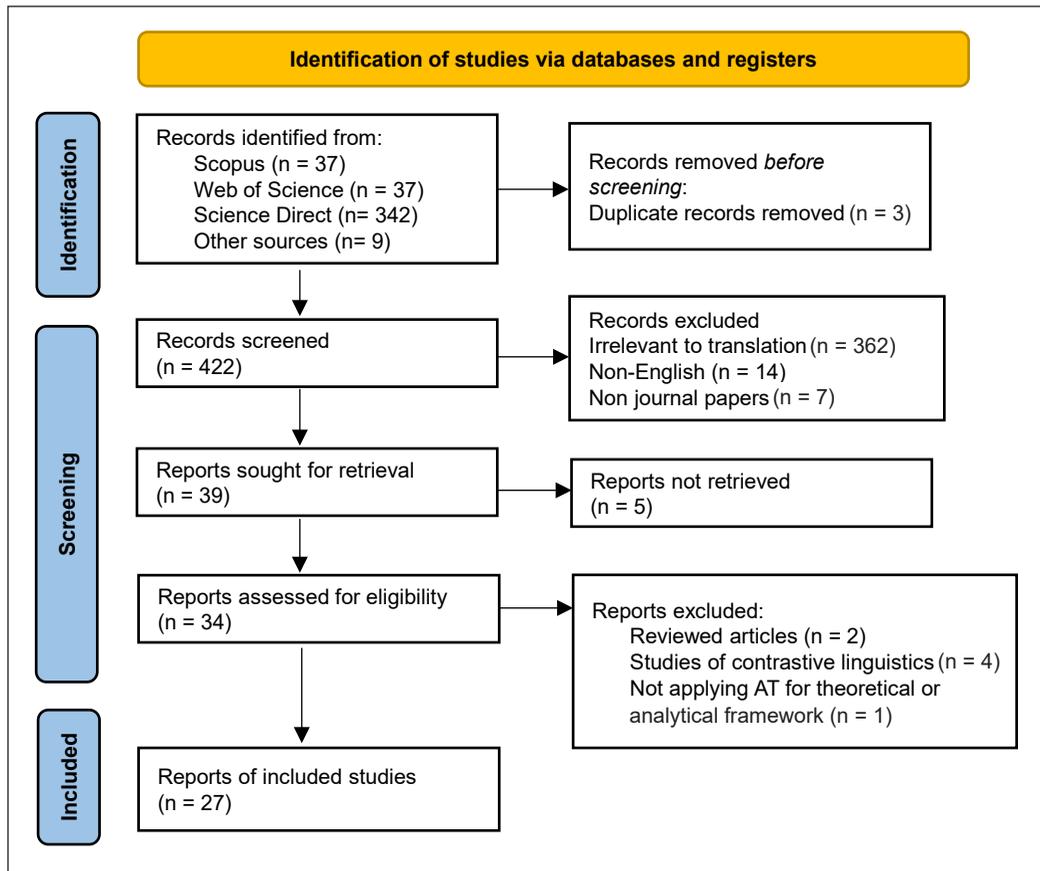


Figure 1. Identification and selection of studies adapted from PRISMA 2020 (Page et al., 2021)

of screening for eligibility required careful reading of the article's content to ensure that each included article applied AT as/part of the theoretical or analytical framework in translation studies. Finally, there were 27 articles included for this systemic review after screening. Most identified articles were excluded because they were irrelevant in AT and translation studies. Many were in the research areas of medical, psychology or management. Some of them used AT for discourse analysis in other areas of linguistic studies instead of translation, such as narrative, ESL writing and mass media.

FINDINGS AND DISCUSSION

Generally, the number of journal articles that apply AT in translation is small, with only 27 during the last ten years, from 2011 to 2021. However, the number of annual publications is not big. As shown in Figure 2, there were only one or two published articles between 2011 and 2017. The year 2018 witnessed the largest number with 6 publications and an increased study of AT. The total number of publications between 2018 and 2021 is 15, which is larger than that between 2011 and 2017 (12 articles). Among the authors of these articles, Jeremy

Munday is outstanding for examining AT in translation studies of political discourse. He contributed three journal papers apart from his relevant published books or book chapters. Besides, Qian Hong (2012, 2017) also contributed two papers during the last ten year. The detailed information of each paper is summarized in the appendix, and the discussion of the status quo and limitations in terms of genres, foci of studies, application of AT and methodologies are presented in the following.

Genres and Text Types

The genres of the included studies mainly involve literary discourse, news and political discourse. According to Figure 2, there are six articles of literary translation, including text types of novels, poems and short stories; nine studies of news translation and eight studies focusing on political discourse, which include government work reports, white papers, press conferences and inaugural addresses. Four articles are categorized as “Others,” and they involve legal documents (Romagnuolo,

2014), historical criticism (Kim, 2017), public notices (Qian, 2017) and animation (Yahiaoui et al., 2021). In addition, most articles focus on the translation of written texts, especially those that study news and literary translation. On the other hand, there are only four studies analyzing the texts for oral interpretation, all of which are political discourse (X. Li & Zhang, 2021; Munday, 2015, 2018; Qian, 2012). Besides, three studies are unique in choosing text types compared with others. In political discourse, Munday’s (2012b) study discussed the subtitles of Obama’s 2012 State of the Union speech. In news translation, Zeng and Li (2021) focused on netizens’ news comments on new media. The last one is the study by Yahiaoui and his team (2021), which focused on dubbing a musical animation. As a result, the application of AT is kind of popular in the translation studies of news, literary and political discourse, proving AT’s feasibility and efficiency in translation analysis. Nevertheless, as the genres of the included studies are quite concentrated, it reflects neglect of other genres and text

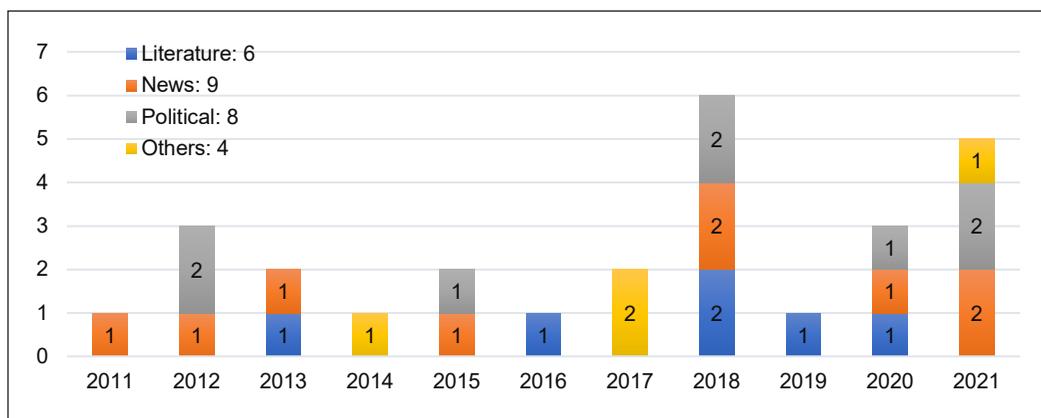


Figure 2. Distribution of included studies and their genres and text types between 2011-2021

types, such as legal, historical or commercial discourse, as well as texts from new media or social media. Meanwhile, there is a lack of research on oral interpretations. The studies on subtitles and dubbing visual materials such as movies or TV shows are also very limited.

Research Foci

There are various foci of issues among the included studies, but translation shifts, translators' decision-making, positioning as well as ideology seem to be the most mentioned and focused. More specifically, it is believed that the choices of research foci are closely related to the genres and text types of the studies. As for news translation, studies tended to focus on translation shifts together with ideology and positioning (see Table 2), which aimed to analyze the reasons or motivations for different shifts (Ban & Noh, 2018; Manfredi, 2018; Pan, 2015; Pan & Liao, 2020; Zhang, 2013). More translation studies of political discourse pay attention to the roles and functions of translators during the translation process, including translators' decision-making or translators'/interpreters' intervention as well as translators' positioning.

By contrast, literary translation studies focused more on the effects of translation shifts in terms of literature effects or reader acceptance. Three studies discuss the effects or variations of forming fictional characters, such as character depiction and character identity (Espunya & Pintarić, 2018; Fan & Miao, 2020; Rodrigues-Júnior & Barbara, 2013). Take Fan and

Miao's (2020) study, for example, and they analyzed the English translation of a Chinese novel through attitudinal resources to explore the translation effect of character depiction. The result showed that translators rewrote some attitudinal meanings in the TT, which changed the characters' images to some extent. These changes tended to meet Western readers' cognition and value, including ideology, ethics, cultural image and others. However, it is difficult to generalize the preferences of the four text types categorized in "Others" as each of them has only one study, but they also focused on translation shifts (Kim, 2017), positioning (Romagnuolo, 2014) and translator's decision-making (Qian, 2017; Yahiaoui et al., 2021). The details of different research foci in the three genres are presented in Table 2.

Directed by these research foci, the included studies found that the shifts of appraisal resources between the STs and the TTs could reflect specific ideological or stance orientations, which also influenced the effects of the TTs. Moreover, most studies that focused on the factors of translation shifts involved the analysis of the differences in terms of culture, ideology, translator's/institution's positioning. However, the cognitive factors are seldom discussed (Tajvidi & Arjani, 2017), and there is also a lack of focus on applying AT for teaching and training translation. The study of López and Naranjo (2021) is regarded as an exception since it focused on the relationship between text's emotional frame, translators' anxiety level and translation

Table 2
Distribution of different research foci

Genres	Foci	Number of studies
News	Translation shifts	3
	Stance/Ideological positioning	4
	Anxiety emotion & translation strategies	1
	Reframing of image	1
Political	Translation shifts	1
	Translator’s positioning/decision-making	3
	Translators’ intervention	4
Literary	Appraisal features	3
	Character’s depiction/identity	3

strategies of evaluative languages, which is related to cognitive process. Besides, an experimental study was designed for students who majored in translation, which could also shed light on translators’ training.

The Application of AT and Other Theories

AT was used as a theoretical or analytical framework in the included studies, and appraisal has three domains: attitude, engagement and graduation. However, scholars usually choose different domains of AT when applied for the identification, categorization and analysis. The distribution of applying different domain(s) in AT is presented in Figure 3. Among the included studies, attitude is the domain mostly applied, accounting for 40 % (12 articles out of 27). The percentages of applying for graduation and engagement are less, accounting for 20% (six articles) and 17% (five articles), respectively. However, there are overlapped parts as graduation is sometimes analyzed together with attitude or engagement, which include Munday’s

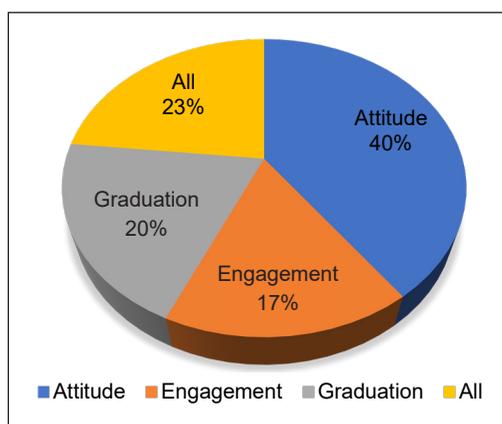


Figure 3. Distribution of applying domain(s) in AT

study in 2012 (attitude & graduation) and 2015 (engagement & graduation). The part of “All” in Figure 3 stands for the studies that analyzed all three appraisal domains, which does not share much percentage (23%) compared to those which focus on one or two domains. In this section, the choices of domains in appraisal do not have a close relationship with text types. Nevertheless, it finds that most literary translation studies preferred to choose attitude for analysis, probably due to many attitudinal resources in literary works and

the close relationship between attitudinal resources and characters' descriptions.

Although AT was regarded as the center of the theoretical framework in the included studies, some studies combined AT with other theories or concepts, which helped support the application of AT for different foci from a more comprehensive perspective. The detailed information of these studies is presented in Table 3. Some of the theories they adopted still focused on the concept of the "function" of language or the relevant elements, such as Nord's text function and Halliday's concept of register, which were used for analyzing the variations of appraisal resources and their effects in terms of context. Others combined theories such as deictic positioning, politeness strategy and narrative theory. Baker's narrative theory and framing strategies were mostly combined, which helped explain the translation effects of reframing image, ideology and values (Pan & Liao, 2020; Yahiaoui et al., 2021; Zeng & Li, 2021). Emotional framing adopted by López and Naranjo (2021) is the only concept that concerns the cognitive process of

translation, which is a new perspective of AT in translation studies. Almost one-third of the included articles combined AT and other theories, providing theoretical or conceptual support for analyzing appraisal resources. It made the analysis more valid and systematic, especially regarding the factors of appraisal shifts and their corresponding translation effects.

Methodologies

Most studies applied qualitative approaches based on discourse analysis (DA). Other methods share a much less percentage, including critical discourse analysis (CDA), corpus-based analysis or mixed method and the distribution is shown in Figure 4. More specifically, 67% of included studies (18 out of 27) apply DA as their main analytical method, which is often supported by case analysis and combined with the frequency of appraisal resources. Usually, the frequency of appraisal resources was offered at first to show the appraisal variations between the STs and TTs directly. Then the examples of variations were analyzed in specific sentences and contexts. This method focused

Table 3
Studies combining AT and other theories

Author(s) & Year	Domain(s) of Appraisal	Other theories
Lu & Chen (2011)	Engagement	Nord's model of text function
Munday (2015)	Engagement & graduation	Chilton's "deictic positioning"
White (2016)	Attitude	Halliday's register
T. Li & Xu (2018)	Graduation	Leech's strategy of politeness
Pan & Liao (2020)	Graduation	Baker's narrative theory
López & Naranjo (2021)	Graduation	Emotional frames
Yahiaoui et al. (2021)	All	Baker's narrative theory
Zeng & Li (2021)	Attitude	Baker's narrative theory

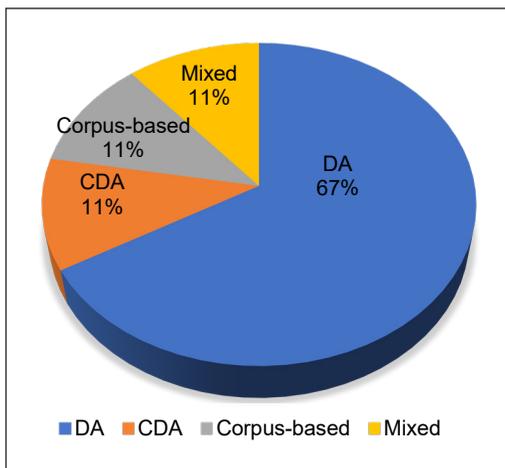


Figure 4. Distribution of different methodologies

more on the text analysis, which explained how appraisal meanings changed in TTs, what kinds of translation effect was caused and what translation strategies were used for translating appraisal resources. However, the single application of DA seems subjective without the support of other kinds of data. An exception is Manfredi's (2018) study investigating ideology in news translation. In his design, different kinds of data were collected for analysis, including the news translated by two Italian media and the interviews of the translators of the two media. The interviews could help explore the policy of translation strategies and the reason for appraisal shifts as the first-hand experience, which also triangulated the analysis of the study.

In contrast, the numbers using CDA, corpus-based analysis and mixed method are small, and they share the same percentage of 11%, which is only three studies for each. Pan is the representative scholar who applied CDA in her studies in 2015 and 2020. In her study in 2015, she adopted

Fairclough's (1995) CDA analytical model, including three dimensions: social analysis, processing analysis and text analysis. The concept of ideological positioning, as well as the graduation system in the appraisal, was integrated into Fairclough's (1995) model to examine how translators accommodate ideological positioning through graduation resources and explore the institutional and social factors of this mediation in news translation (Pan, 2015). In Pan's study of 2020, she focused on graduation resources and mediation of narratives in news translation. CDA was applied to explore the socio-cultural factors behind the deviations of graduation and narratives in terms of three parameters: graduation type, graduation direction and value position (Pan & Liao, 2020). Therefore, it can be inferred that CDA is quite efficient for analyzing social factors of appraisal shifts. As Fairclough (1989) mentions, CDA regards the use of language as a form of social practice and tries to disclose the underlying ideology and power relations in discourse.

Similarly, three studies apply corpus-based analysis (T. Li & Xu, 2018; X. Li & Zhang, 2021; Pan & Liao, 2020). The corpus-based analysis is practical in data collecting and coding when dealing with many texts. Take T. Li and Xu's (2018) study, for example, and they discussed the interpreter's engagement choices at the Chinese Foreign Minister's press conference in March 2018. They used the UAM corpus tool to code 361 pairs of utterances, and there were four stages for coding, which

were used to identify monoglossic and heteroglossic utterances, different recourses of heterogloss as well as engagement shifts and the most salient types of engagement shifts. The corpus results helped determine the characteristics that the minister and journalists preferred to use heterogloss rather than monogloss in the ST. Secondly, there were more contractive resources used by the minister and more expanding ones used by the journalists. Thirdly, there was a high degree of interpreter's intervention with 46% of engagement shifts, which was realized through the reduction of the minister's monogloss, the omission of foreign journalists' countering and concurring, as well as the omission of Chinese journalists' concurring. Thus, the corpus-based analysis could provide the distribution or frequency of appraisal resources with a more specific classification and precise numbers, which supports the latter analysis.

In addition, the "Mixed" part in Figure 4 also involves three studies that apply the mixed method. The first study was done by Wu (2019), who applied mixed methods, including quantitative analysis and contextualization, to study the attitudinal shifts of different versions of literary translation. SPSS was used to determine whether there were statistical significances of attitudinal units in distribution, block density and prosody. Furthermore, SPSS analysis made the variation between ST and TTs and between two TTs more visual and direct. Besides, the contextual explanation was also given to seek the factors through

linguistic, cultural and ideological aspects. The second study by López and Naranjo (2021) focused on the cognitive process of translation and discussed how anxiety and emotion influenced the translation strategies of evaluative language.

In order to answer this question, they conducted an experimental study on two groups of Spanish undergraduates who majored in translation. One was asked to read and translate an English journalistic article with optimistic views about COVID-19, while the other group translated a similar article but raised pessimistic views. SPSS was also applied in this study to analyze the effects of ST emotional content, participants' level of anxiety, positive and negative affect, and translation strategies of graduation resources. Finally, the last study was conducted by Zeng and Li (2021), and they applied content analysis and DA together to discuss how the translation of attitudinal resources reframes national image in news comments. The content analysis was used to identify and classify news topics and comments. In contrast, DA was used to examine the deviations of attitudinal resources, especially those related to the evaluations of national image.

At last, there are some limitations of methodologies found in the included studies. First, there are still a lack of application of CDA, corpus-based analysis and mixed method according to the distribution. Secondly, the categorization and coding of appraisal resources were not clearly explained. The appraisal content is quite complex with three domains, and each

has different subcategories, which is very challenging to categorize and code. However, the included studies seldom provided clear steps or criteria for this process.

Moreover, this complexity also increases the difficulty of identifying appraisal resources, and most identification and categorization lack expert or peer verification. Finally, there is a problem with defining the type of methodology, especially when it refers to a quantitative or mixed approach. Some studies that presented the frequency of appraisal resources claimed they used a quantitative or mixed approach (Dong & Lin, 2018; X. Li & Zhang, 2021; Lu & Chen, 2011). However, they merely calculated the number and percentage, which reflected the features and differences of appraisal resources in STs and TTs. The analytical process was still qualitative based on DA. Quantitative or statistical analytical approaches and relevant tools were not applied.

CONCLUSION

In conclusion, this study offered a systematic review of the application of AT in translation studies from 2011 to 2021. The searching of studies involved three databases: Scopus, Web of Science and ScienceDirect, and the selection of included studies was guided by PRISMA 2020. There are 27 articles included after screening, and the status quo of these studies in terms of the four aspects are summarized in the following. First, the genres focus on news, political discourse and literary discourse. Secondly, most research

focuses on the issues of translation shifts, positioning, translator's decision-making and ideology. More specifically, the studies of news translation focus on translation shifts and ideology. Political translation focuses more on the intervention of the translator/interpreter, while literary translation pays more attention to target reader involvement and characters' description. As for the application of AT, different appraisal domains are applied in various text types. Among the three domains, attitude is mostly examined, and graduation is often discussed with attitude and engagement, but only a few studies analyze all three domains. Besides, other theories and concepts are adopted as theoretical and conceptual supplements. Most studies only apply the DA approach, and some offer the frequency and distribution of appraisal resources.

The limitations of these studies, as well as the corresponding suggestions for future studies, are generalized below. Firstly, the genres and text types are too concentrated, and the text types can be extended to other genres to examine further the application of AT, such as legal or commercial discourse, as well as visual materials. Secondly, the cognitive process and translator/interpreter's training are still neglected as the foci of AT, which require more attention. Thirdly, more studies are recommended to analyze all three appraisal domains. Finally, combining AT and other theories is encouraged because it can help analyze the translation effects and the possible factors from specific perspectives. Furthermore, using a mixed method recommended for future studies

since it can provide different kinds of data and make the analysis more persuasive and objective. In addition, the categorization and coding of appraisal resources require a clearer explanation as well as an expert or peer's check.

Therefore, this systematic review sheds light on the research trends of applying AT from a comprehensive perspective of the last ten years, which could fill the literature gap in AT and translation studies. Meanwhile, it also contributes to applying AT in future studies as it provides specific suggestions according to the limitations of previous studies. Nevertheless, there are also some limitations to this review. Firstly, the number of databases is limited, and books or book chapters are excluded, which results in a limitation of included studies. Moreover, there is a lack of examination of the reliability of the sample. Therefore, the procedure and result of searching and screening should be checked by different reviewers independently. Future research could involve more databases with various resources and test the inter-rater reliability of sampling.

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APPENDIX

Supplementary Table

Year	Author(s)	Genres/text types	Foci of issue	Appraisal & other theories	Methodology
2011	Lu & Chen	News	Shifts of engagement & reader involvement	Engagement & Nord's model	Frequency+DA
2012b	Munday	Political speech (subtitling)	Translator decision-making	Attitude & graduation	DA
2012	Qian	Public speech	Translator's positioning	Engagement	Frequency+DA
2012	Seo	News	Translation shifts	Attitude	Frequency+DA
2013	Rodrigues-Júnior & Barbara	Novel	Literary characters & narrator's voice	All	DA
2013	Zhang	News headlines	Stance & mediation	Attitude	DA
2014	Romagnuolo	Legal document	Voice positioning	All	DA
2015	Munday	Interpretation of international meeting	Translator/interpreter positioning	Engagement & graduation	DA
2015	Pan	News	Ideological positioning	Graduation	CDA
2016	White	Novel	Variation in Register & Attitude	Attitude/Halliday's register	DA
2017	Kim	History	Translation shifts	Attitude	DA
2017	Qian	Public notices	Translation shifts & Translator decision-making	Attitude & engagement	DA
2018	Dong & Lin	Poem	Characteristics of appraisal resources	Attitude	Frequency+DA
2018	Espunya & Pintarić	Fiction	Identity negotiation & language style	All	Character analysis
2018	Ban & Noh	News	Translation shifts	Attitude/framing strategies	DA
2018	T. Li & Xu	Government work reports and white papers	Translation shifts & variation of attitudes	Graduation/strategy of politeness	Corpus-based analysis
2018	Manfredi	News backgrounder	Subjectivity & ideology	Attitude	Text-focused analysis & interviews
2018	Munday	Political speech	Interpreter/translator intervention	All	DA
2019	Wu	Short story	Attitudinal shifts & reader effect	Attitude	Mixed (SPSS)&DA

Supplementary Table (continue)

Year	Author(s)	Genres/text types	Foci of issue	Appraisal & other theories	Methodology
2020	Constantinou	Promotional materials for EU	Translators' intervention	All	CDA
2020	Fan & Miao	Novel	Character depiction	Attitude	Comparative analysis/DA
2020	Pan & Liao	News	Conflicts/positioning	Graduation & narrative theory	CDA & corpus analysis
2021	X. Li & Zhang	Political discourse (press conference)	Negotiation of power and solidarity	Engagement	Corpus-based analysis/DA
2021	López & Naranjo	Journalistic texts	Translation strategies & anxiety level	Graduation & Emotional frames	Experiment/ statistical analysis
2021	Phanthaphoommee	Inaugural speech	Translation shifts/ translator's intervention	All	DA
2021	Yahiaoui et al.	Dubbing in animation	Translational decision-making/ ideology	All/narrative theory	DA
2021	Zeng & Li	News comments	Reframing of image	Attitude & narrative theory	Content analysis +DA



Impact of Governance Structure, Infrastructure, and Terrorism on Tourism

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ABSTRACT

This study explores the effect of governance structure, ICT infrastructure, physical infrastructure, and terrorism on tourism receipts for 102 countries. The study uses 18-year data ranging from 2002–2019. To test the relationship among variables in the short and long run, Panel ARDL is employed. Furthermore, this study extended the analysis by dividing the overall sample into five regions and four income groups. Results revealed that all variables are cointegrated. Pooled Mean Group model's results show that physical and ICT infrastructure significantly impact tourism. Governance structure matters in high-income countries only. However, surprisingly terrorism incidents were not negatively affecting tourism receipts in the low and lower-middle-income countries. Terrorism was negatively impacting tourism in upper-middle-income countries only. Furthermore, ICT, physical infrastructure, and governance significantly affect tourism in different regions of the world. The causality test suggested unidirectional causation from tourism to terrorism and bidirectional causality for physical infrastructure and tourism. This study has important policy implications for all tourism and travel industry stakeholders.

Keywords: Governance structure, infrastructures, panel ARDL, terrorism, tourism

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INTRODUCTION

Tourism is one of the largest global economic sectors comprising multiple industries playing an increasingly important role in the economic and social development of countries and communities. Tourism activities contribute to economic growth by creating jobs, developing marginalized places and communities, and improving

foreign currency reserves (Ishikawa & Fukushige, 2007; McElroy, 2006). Tourism's role in elevating an economy is more pronounced for developing than developed economies (A. Liu & Wall, 2006).

The scale and scope of tourism's economic impact¹ are evident in the following statistics shared by World Economic Forum (2019, 2022) and World Travel and Tourism Council (2021). The number of worldwide international tourist arrivals reached 1.4 billion in 2018, two years earlier than the prediction (World Economic Forum, 2019), and it may reach the 1.8 billion mark well before the year 2030. The share of the tourism and travel industry's GDP in global GDP is 10.4% in 2019, and it is predicted to increase to 11.5% of global GDP by 2029². Approximately 11% of the total employment in 2019 was generated by the tourism sector alone, translating into 319 million jobs. Despite the 62 million jobs lost due to the COVID-19 pandemic, the travel and tourism sector still provides 8.9% of all the jobs. Finally, tourists spent approximately 1,691 Billion USD on foreign destinations in 2019 (World Travel and Tourism Council, 2021). These numbers suggest an increasingly important role of tourism in economic and social development. Therefore, this topic warrants additional attention from all quarters, i.e.,

¹ This study used tourism and related variables data till 2019. Therefore, the empirical discussion does not address the pandemic starting in 2020

² This forecast was before the world experienced the COVID pandemic. However, the travel and tourism GDP declined by 49.1% due to the pandemic, i.e., a \$4.5 trillion GDP loss.

academics, policymakers, and industry, and motivates our study.

The extant literature investigated critical factors affecting tourism, such as terrorism, governance, physical infrastructure, and information and communication technology (ICT) infrastructure. Due to the global nature of tourism and its intensive economic impact, terrorism poses a serious threat to the tourism industry (Saha & Yap, 2014). In addition, a sense of uncertainty and insecurity may force a tourist to pick a less famous but safer destination (Lutz & Lutz, 2020), thus affecting entire regions. Among studies that have investigated different aspects of terrorism and its impact on tourism include Alvarez and Campo (2014), Isaac (2021), Karamelikli et al. (2020), and Muthoni (2021).

The governance structure of a country is one of the crucial elements in improving tourism development. The presence of good governance means less political instability and corruption (Haider et al., 2011) and, therefore, might signal a significant level of security which improves incoming demand for tourism (Nadeem et al., 2020). Similarly, a developed ICT and physical infrastructure are critical for developing and elevating the travel and tourism industry (Bethapudi, 2013; Catudan, 2016; Guemide et al., 2019; Kumar & Sharma, 2017; Maltese & Zamparini, 2021).

Governance structure, physical & ICT infrastructure, and terrorism are the essential determinants of tourism. Existing literature studied the role of either one or two of these determinants on tourism for an

individual country or a panel of countries (for example, Bayram, 2020; Detotto et al., 2021; Maltese & Zamparini, 2021; Nadeem et al., 2020; Sun & Luo, 2021). However, to our knowledge, no study has analyzed the impact of all these variables on tourism in a simultaneous econometric framework. This study investigates the impact of governance structure, ICT infrastructure, physical infrastructure, and terrorism on tourism, considering this gap in the literature. Therefore, the current study adds to the empirical literature on tourism by investigating the simultaneous impact of these four independent variables on tourism in a multivariate framework and for countries included in the travel and tourism competition index. In addition, the current study also analyses these variables' impact on tourism in different world regions. This analysis is essential because the overall analysis does not highlight the underlying difference in governance structure, physical infrastructure, and terrorism across the region. Therefore, this study also contributes to the empirical literature by comparing the influence of these variables across different regions.

Furthermore, variation in the level of economic development across countries also influences the ability of a country to establish physical and ICT infrastructure in the country and provide funds for better governance. Different levels of development across nations lead to varying infrastructure and governance structures and influence tourism. Therefore, the current study contributes to the empirical literature by

analyzing the impact of terrorism, physical and ICT infrastructure, and governance structure on tourism across different income groups.

The rest of the paper is organized as follows. Section 2 focused on the literature review regarding governance structure, infrastructure, and terrorism's impact on Tourism. Section 3 elaborates on the estimation technique, variable description, and data sources. Finally, section 4 consists of the results and discussion, while section 5 consists of the conclusion and the recommendations.

LITERATURE REVIEW

Existing literature has analyzed the role of governance structure, infrastructure, and terrorism in attracting tourist arrivals separately. This study aims to contribute to the tourism literature by jointly considering terrorism, ICT and physical infrastructure, and governance structures' effect on tourism receipts. Therefore, we divided our literature review into three sections to demonstrate the clear nexus between the variables.

Governance and Tourism

The governance structure is vital in establishing an environment conducive to economic development and growth. Such an environment not only boosts investors' confidence but also attracts the attention of tourists. However, tourism is a fragile sector (Detotto et al., 2021), and any instabilities, e.g., poor governance through political instability or low-quality institutions, terrorism, and regional conflicts, could

severely affect tourism. Therefore, good governance, both at the national and industrial levels, is a primary requirement for the sustainable progress of tourism (Detotto et al., 2021; Dritsakis, 2004; Fayissa et al., 2008). Moreover, tourism can obtain political and economic power to build an optimistic image of one's country (Vujko & Gajic, 2014).

Many country-specific studies have linked governance (political (in)stability) and terrorism's impact on tourist arrival and demand (Causevic & Lynch, 2013; O'Brien, 2012). The quality of institutions and lack of crime, corruption, and violence are the key factors determining the tourist inflow to a destination (Choudhary et al., 2020; Santana-Gallego & Fourie, 2020). Therefore, tourists are usually more concerned about the state of political stability in a destination country (Tang, 2018). Similarly, political instability is more detrimental to tourism than an isolated terrorism incident (Saha & Yap, 2014). Interestingly, in politically stable countries, terrorism incidents could increase tourism demand.

Infrastructure (ICT, Physical) and Tourism

The development of the tourism sector is closely linked to physical and information & communication technology (ICT) infrastructure in the host destinations (Adeola & Evans, 2020). The physical infrastructure includes air travel facilities, highways and motorways, access roads and routes, rail and other transport infrastructure, accommodation, and recreational venues.

Masson and Petiot (2009) and Y. Liu and Shi (2019) looked into the role of high-speed railways in attracting and promoting tourism.

There is a wide stream of research that has highlighted the role of all these different types of infrastructures and their role in enhancing tourism in a single country and multi-country settings (Catudan, 2016; Kanwal et al., 2020; Maltese & Zamparini, 2021; Saayman & Saayman, 2008).

Tourism is an information-intensive industry (Anwar et al., 2014); thus, a developed and working ICT infrastructure is a prerequisite for proper functioning and growth. From Web 1.0 to smartphone apps, the internet has become an integral part of tourism. Adeola and Evans (2020) reported a statistically significant and positive relationship between ICT and infrastructure on tourism development for an African sample of countries. In addition, the use of the internet for information access, travel planning and booking tickets has been studied in tourism (Karanasios & Burgess, 2008; Wang & Cheung, 2004). As of April 2021, there are a total of 4.72 billion active users, growing at a rate of 7.6% per annum (<https://datareportal.com/global-digital-overview>). This mammoth number of internet users suggests the critical role of ICT in promoting and developing tourism. Also, the availability and access to ICT-related services and products made tourism-related service providers efficient and competitive (Alford & Clarke, 2009), which ultimately benefits tourists, which means growth of the tourism sector.

The empirical literature on the role of ICT in impacting tourism has been multi-dimensional. Studies such as Buhalis (2004) and Wang and Cheung (2004) looked at the role of the internet in promoting tourism activities from an e-commerce perspective. A major chunk of studies (Adeola & Evans, 2020; Choudhary et al., 2020; Kumar & Sharma, 2017) investigated the link between the state of ICT infrastructure and tourism income, demand, and growth. An emerging stream of studies also has focused on the role of ICT in tourist satisfaction and experience sharing (Buhalis, 2020; Tussyadiah & Zach, 2012), information access and trip planning (Doric et al., 2019; Maltese & Zamparini, 2021), smart tourism (Gretzel et al., 2015), tourism promotion and marketing (Bayram, 2020), and medical tourism (Ayuningtyas & Ariwibowo, 2020).

Terrorism and Tourism

During the last decade, apart from countries that are already suffering from political turmoil and terrorism incidents, developed and stable countries also have witnessed many terrorist attacks (Lanouar & Goaid, 2019). The most significant impact of terrorism is its capacity to divert travelers' preferences from one destination to another (Dlugosz et al., 2022; Neumayer & Plümper, 2016; Stankova et al., 2019). Fernando et al. (2013) reported the varying effect of civil war in Sri Lanka and how it was reported in print and electronic media on tourist arrivals. Buigut et al. (2021) reported a decrease in inward international travelers in Malaysia after terrorism incidents. Similarly,

Isaac (2021) pointed out the reluctance of Dutch tourists, especially if accompanying children in traveling towards Egypt, because of the risk perception. Furthermore, tourism can be a leading source of earnings for an industrialized economy, and terrorism poses a significant threat to tourism, thus negatively affecting the economy (Saha & Yap, 2014).

Many studies have investigated the spillover effects of terrorism and reported its existence, suggesting that the effect of terrorism incidents has a cross-boundary impact (Bassil et al., 2019; Buigut et al., 2021; Neumayer & Plümper, 2016; Seabra et al., 2020).

Maslow's (1943) theory of motivation suggested that safety is one of the basic needs of humans. Thus, while planning for a vacation, the destination's safety image and risk perception play a vital role in destination selection (Roehl & Fesenmaier, 1992). The possibility of terrorism (incident news, threats, perception) negatively influences tourists' decision to visit a chosen destination (Ziółkowska-Weiss & Pieron, 2021). An overwhelming majority, i.e., 91% of the respondents in Ziółkowska-Weiss and Pieron's study, checked the political news and conditions before traveling to the chosen destination. Thus, travelers' political stability and safety are critical factors for the success of the travel industry (Almuhrzi et al., 2017; Araña & León, 2008; Bhattarai et al., 2005). Tourists from safe countries favor traveling to countries with a comparable level of security.

In contrast, tourists from unstable countries are less concerned with the

insecurity situation in the destination country (Fourie et al., 2020; Seabra et al., 2020). Adeloye and Brown (2018) asserted that terrorism causes fear and anxiety among potential tourists, and the media influences travel risk perception. Tourists could change their destination if considered unsafe due to terrorist threats to a safe one (Muthoni, 2021). The travel and terrorism advisories issued by different countries also influence tourists' preferences and choices (Walters et al., 2018). Baggio and Sainaghi (2011) argued about the memory effect, which shows that while tourist flow may affect in the short run due to terrorism, in the long run, tourists may return to the place of their choice.

In conclusion, the existing empirical literature (Alvarez & Campo, 2014, for Israel; Asongu & Acha-Anyi, 2020, for a panel of 163 countries; Bassil, 2014, for the Middle East; Dlugosz et al., 2022, for Egypt; Fletcher & Morakabati, 2008, for Fiji and Kenya; Kaya et al., 2022; Llorca-Vivero, 2008, for G-7 countries; Öcal & Yildirim, 2010, for Turkey; Raza & Jawaid, 2013, for Pakistan; Sloboda, 2003, for the USA; Stankova et al., 2019, for Europe and the USA) has established a damaging role of terrorism for tourism.

METHODS

Data and Model Specification

The travel and tourism competitiveness index measure the set of factors and policies that enable the sustainable development of the Travel and Tourism (T&T) sector, which in turn contributes to the development and

competitiveness of a country. The travel and tourism competitiveness index 2019 consists of 140 countries. However, the current study includes 102 countries (Appendix) in the travel and tourism competitiveness report and excludes those countries for which data of all variables are unavailable. Data for the study is collected from 2002 to 2019. The multivariate model expressed in equation 1 is used to measure the impacts of terrorism, governance structure, and physical and ICT infrastructure on tourism income.

$$TI_{it} = \alpha_i + \alpha_1 TSM_{it} + \alpha_2 GAVA_{it} + \alpha_3 INF_{it} + \alpha_4 ICT_{it} + \epsilon_{it} \quad (1)$$

Where TI, TSM, GAVA, INF, and ICT represent tourism income, terrorism, governance structure, physical infrastructure, and ICT infrastructure, respectively. α_i represent fixed effect while α_1 . α_4 denote the coefficient of each independent variable while ϵ_{it} is the error term.

Tourism is the dependent variable, and it is measured through income proceeds from tourism (current US\$) by a country, and the data is obtained from WDI. The governance structure is measured through an average of six governance indicators, i.e., voice and accountability, political stability and absence of violence, government effectiveness, regulatory quality, the rule of law and control of corruption. The data for this variable is obtained from Worldwide Governance Indicators (WGI). Physical infrastructure is the general term for the elementary physical systems of a commercial, region, or state. It is proxied

by gross fixed capital formation as a percent of GDP in line with Adeola and Evans (2020) and Nadeem et al. (2020), and data is gathered from WDI. ICT is the information and communications technology infrastructure and systems, including the internet, communication networks, software and mobile applications, and hardware. Following Adeola and Evans (2019) and Nadeem et al. (2020), ICT infrastructure is proxied through the number of people using the internet as a percent of the population, and the data is collected from WDI. Global Terrorism Database (National Consortium for the Study of Terrorism and Responses to Terrorism (2022) defines terrorism as “the threatened or actual use of illegal force and violence by a non-state actor to attain a political, economic, religious, or social goal through fear, coercion or intimidation” (Data Collection and the Definition of Terrorism section). It consists of the total number of causalities in a terrorist attack. In the current study, we used the Global Terrorism Index (GTI) established by the Global Terrorism Database. It ranges from zero to 10, where zero represents no impact from terrorism and 10 represents the highest measurable impact of terrorism.

Methodology and Estimation Technique

The panel ARDL is applied to find whether long and short-run relations exist between the given variables for all the countries. However, the panel ARDL method is favored compared to cointegration because of its benefit of being more robust and executing well for a small sample size. The

traditional cointegration method required the integration of data on the same level, while ARDL can be used nevertheless of whether they are $I(0)$, $I(1)$, or both $I(0)$ and $I(1)$. Panel ARDL consists of three models, which include Mean Group (MG), Panel Mean Group (PMG), and Dynamic Fixed Effect (DFE). PMG and MG both depend on the maximum likelihood method. PMG is more suitable than MG as it is robust towards the outliers and lag orders. Another advantage of the PMG model is that it can account for the cross-sectional dependence estimator introduced by Pesaran et al. (1999) to estimate the short and long-run association between the variables. It allows short-run coefficients, including intercept, the speed of adjustment to the long-run equation values, and error variances to be heterogeneous across countries. In contrast, long-run slope coefficients are restricted to be homogenous across cross-sections.

In the current study, the PMG model is more appropriate because the short-run adjustment is always country-specific due to the widely diverse influence of political unrest and terrorism, different governance structures, and stabilization policies. In addition, PMG is considered more effective because of valid long-run restrictions, as it may be considered. PMG, MG, and DFE models are selected based on the Hausman test. If the P-value of the Hausman test is greater than 0.05, PMG is selected, but if the P-value is less than 0.05, then the MG or DFE model is selected.

ARDL cointegration technique is desirable if the variables are integrated

in diverse order. Thus Panel ARDL(p,q) equation is written as follows.

$$\begin{aligned} \Delta TI_{it} = & \gamma_i + \sum_{j=1}^p \alpha_{1,ij} \Delta TI_{i,t-j} \\ & \sum_{j=0}^q \alpha_{2,ij} \Delta TSM_{t-j} + \sum_{j=0}^q \alpha_{3,ij} \Delta GAVA_{t-j} \\ & + \sum_{j=0}^q \alpha_{4,ij} \Delta INF_{t-j} + \sum_{j=0}^q \alpha_{5,ij} \Delta ICT_{t-j} \\ & + \beta_{1,ij} TSM_{i,t-1} + \beta_{2,ij} GAVA_{i,t-1} + \\ & \beta_{3,ij} INF_{i,t-1} + \beta_{4,ij} ICT_{i,t-1} + \varepsilon_{it} \end{aligned} \quad (2)$$

Where p represents the lag of the dependent variable and q represents the lag of independent variables. $i = 1, 2, \dots, N$ and $t = 1, 2, \dots, T$, γ_i represent the fixed effects, $\alpha_1 - \alpha_5$ are the lagged coefficients of the independent variables, and ε_{it} is the white noise error term which varies across countries and time. Where Δ denotes the first difference while $\beta_1 - \beta_4$ are the long-run coefficients of the terrorism, governance structure, physical, and ICT infrastructure, once a long-run relationship is established between the dependent variable and the independent variables, the Panel ECM form can be written as follows.

$$\begin{aligned} \Delta TI_{it} = & \gamma_i + \sum_{j=1}^p \alpha_{1,ij} \Delta TI_{i,t-j} + \\ & \sum_{j=0}^q \alpha_{2,ij} \Delta TSM_{t-j} + \sum_{j=0}^q \alpha_{3,ij} \Delta GAVA_{t-j} \\ & \sum_{j=0}^q \alpha_{4,ij} \Delta INF_{t-j} + \sum_{j=0}^q \alpha_{5,ij} \Delta ICT_{t-j} \\ & + \beta_{1,ij} TSM_{i,t-1} + \beta_{2,ij} GAVA_{i,t-1} + \\ & \beta_{3,ij} INF_{i,t-1} + \beta_{4,ij} ICT_{i,t-1} + \theta_i ECM_{i,t-1} + \varepsilon_{it} \end{aligned} \quad (3)$$

Where θ_i represents the coefficient of the ECM, the speed of adjustment made every year towards long-run equilibrium.

RESULTS AND DISCUSSION

This study covered the 102 countries in the travel and tourism competitiveness report. Data for the study is collected from 2002 to 2019 to evaluate the effect of terrorism, governance structure, and infrastructure on tourism. Descriptive statistics presented in Table 1 describe the fundamental features of the data set in this study. The average tourism income is 9,230 million USD indicating an overall increase in tourism receipts. The average score of terrorism measured by the global terrorism index (GTI) in all countries is 2.384. GTI ranges from zero to 10, where zero represents no impact from terrorism and 10 represents the highest measurable impact of terrorism. The minimum value of terrorism is zero, while the maximum value is 8.931, which indicates that terrorism has a diverse effect on tourism in different countries. The minimum and maximum value of ICT infrastructure represent that in some countries share of the population using the internet is negligible, while in another hundred percent of the population has internet access. We also observe similar differences in nations in the sample in physical infrastructure and governance variables.

Table 2 shows descriptive statistics of each income group. Overall, the mean value of terrorism is lower in all income groups. However, the mean value is much lower in the high-income group than in the three other groups. Interestingly the mean value of terrorism is higher in upper-middle-income groups than in low-income or lower-middle-income groups. Overall average tourist

Table 1
Descriptive statistics (2002-2019)

Variable	Obs.	Mean	Std. Dev.	Min	Max
Tourism (\$M)	1836	9,230	22,200	1	256,000
Terrorism	1836	2.384	2.219	0	8.931
ICT Infrastructure	1836	38.311	30.554	0.055	100
Phy. Infrastructure	1836	24.088	7.456	1.525	58.151
Governance	1836	0.023	0.899	-1.784	1.969

Table 2
Descriptive statistics of different income groups

Variable	Low income					High income				
	Obs	Mean	Std. dev	Min	Max	Obs	Mean	Std. dev	Min	Max
Terrorism	180	2.422	1.735	0	6.092	648	1.946	2.001	0	8.034
Tourism (\$M)	180	347	561	1	3,550	648	19,600	33,600	285	256,000
ICT Infrastructure	180	6.822	7.239	0.055	32.474	648	66.471	23.358	6.385	100
Phy. Infrastructure	180	21.076	9.810	3.949	53.988	648	24.018	5.522	10.217	48.869
Governance	180	-0.802	0.385	-1.587	0.024	648	1.037	0.595	-0.483	1.969

Variables	Lower middle income					Upper-middle income				
	Obs	Mean	Std. dev	Min	Max	Obs	Mean	Std. dev	Min	Max
Terrorism	522	2.627	2.625	0	8.931	486	2.693	2.089	0	7.519
Tourism (\$M)	522	1,970	3790	4	29100	486	6,570	10,700	63	65,200
ICT Infrastructure	522	17.218	17.091	0.140	76.124	486	35.083	23.547	0.390	82.642
Phy. Infrastructure	522	24.460	8.464	1.525	58.151	486	24.898	7.281	10.854	57.990
Governance	522	-0.624	0.357	-1.607	0.252	486	-0.326	0.438	-1.784	0.717

receipts are approximately nine billion USD in the overall sample. However, the average tourist receipts are much higher in the high-income group than in the other three income groups. The mean value of ICT is approximately 23 for high-income and upper-middle-income, which shows that almost one-fourth of the population has internet access.

In contrast, the mean values of ICT for lower-middle and low-income countries are 17.218 and 6.822, respectively, which shows that a fewer portion of the population

has internet access. A comparison of ICT infrastructure averages shows the increase in ICT infrastructure with an increase in income levels. In the case of physical infrastructure, the overall difference between high-income and other three groups is not that much. The mean governance values in the four income groups point toward the weak state of governance in low-income, lower-middle-income, and upper-middle-income countries. In contrast, the state of governance is much better in the high-income group.

Table 3 shows the correlation between tourism, terrorism, ICT, physical infrastructure, and governance in the overall sample (102 countries). Tourism receipts were found to be positively correlated with all the variables. Both ICT and governance are strongly correlated with tourism receipts. Similarly, ICT and governance are found to be strongly correlated as well.

Before applying the panel ARDL, we must check the stationarity properties of the variables. The CD test proposed by Pesaran (2004) is used to investigate whether cross-sectional reliance exists for the panel. Cross-sectional dependence can create complex issues while testing the unit root test null hypothesis.

CD test results in Table 4 demonstrate that the P-value is less than .05 for all variables, which means the variables are cross-sectionally dependent. Consequently, we can reject the null hypothesis of cross-sectional independence for tourism receipt, terrorism, ICT, physical infrastructure, and governance structure at a one percent significance level.

Table 5 shows the result of both CADF and CIPS. CADF results reveal that ICT is stationary at the level while the remaining

variables are stationary at the first difference. The CIPS panel unit root results show that tourism receipt, terrorism, and ICT are stationary at a one percent significance level. In comparison, the physical infrastructure and governance structure is stationary at first, with a one percent level of significance.

Panel ARDL Estimation

After the unit root analysis, Panel ARDL estimation is conducted. This study has taken different income categories because every country in the same region has different developmental status besides their difference in visiting places, climate conditions, and tourism industry competitiveness. Furthermore, every country in different regions has different facilities to accommodate tourists. Therefore, these factors are directly incorporated into the

Table 4
CD test results

Variable	CD-test	p-value
Tourism	207.41	.000
Terrorism	21.42	.000
ICT Infrastructure	285.19	.000
Phy. Infrastructure	29.59	.000
Governance	3.43	.001

Table 3
Correlation matrix is based on the overall sample

	I	II	III	IV	V
I Tourism	1				
II Terrorism	0.226***	1			
III ICT Infrastructure	0.670***	0.006	1		
IV Phy. Infrastructure	0.244***	0.009	0.157***	1	
V Governance	0.619***	-0.143	0.601***	0.010***	1

*** indicates significance at 1%

Table 5
Second generation unit root test results

Variable	Cross-section augmented Dickey-Fuller (CADF)			Cross-sectionally augmented IPS (CIPS)		
	Level		1 st Difference	Level		1 st Difference
	Intercept	Intercept + Trend	Intercept	Intercept	Intercept + Trend	
Tourism	-0.093	3.320	-2.352***	-2.456***	-2.777***	
Terrorism	-2.193**	-1.005	-2.193**	-2.294***	-2.741***	
ICT Infrastructure	-3.192***	-3.052***		-2.393***	-2.877***	
Phy. Infrastructure	2.832	6.197	-11.669***	-1.966	-2.478	-3.801***
Governance	-0.709	4.466	-8.715***	-2.196	-2.439	-3.976***

country’s Gross Domestic Product (GDP). Therefore, we not only estimated ARDL for the overall model but also divided the sample into different income groups to find any potential difference among the variables of interest due to differences in the level of economic development.

Column 1 in Table 6 contains estimation results based on the overall sample, while column 2 to 5 contains estimation results based on different income levels. Results from the PMG model show that the error correlation term (ECT) is negative with a significance level of 1%, indicating a long-run relationship between tourism and the independent variables. The ECT coefficient represents that the adjustment process to equilibrium after disturbance is quickest in high-income countries (-0.336) while it is lowest in lower-middle-income countries (-0.144). Physical infrastructure is a positive and significant predictor of tourism receipts in the overall sample and lower-middle-income and high-income countries in the short and long run. Bramo (2013) noted that physical infrastructure enhanced

overall output growth by facilitating the transportation of goods and services while helping the tourism industry. Kanwal et al. (2020) stated that road and transport infrastructure provides easy access to tourism destinations and increases business activities. Some researchers suggest that road and transport infrastructure plays a vital role in enhancing existing tourism activities and promoting the development of new tourism sites in the region (Currie & Falconer, 2014; Musa & Ndawayo, 2011). Kurihara and Wu (2016) and Li et al. (2019) found that high-speed train service has significantly increased the volume of tourism in Japan and China, as rapid mass transport facilitates the movement of individuals across tourist destinations.

ICT infrastructure has a positive and statistically significant influence on tourism in the long run, while its effect is not statistically robust in the short run. Adeola and Evans (2020) reported similar findings for ICT infrastructure on tourism. However, they explained that because digitalizing tourism is time-consuming, the technology

Table 6
Panel ARDL estimation results

Variable	Overall	Low	Lower Middle	Upper Middle	High
ECT	-0.306*** (0.022)	-0.337*** (0.099)	-0.144** (0.065)	-0.264*** (0.054)	-0.366*** (0.036)
D.Terrorism	0.006 (0.018)	-0.019 (0.074)	-0.074 (0.049)	-0.011 (0.010)	0.042 (0.037)
D.ICT Infrastructure	-0.067 (0.083)	-0.303 (0.427)	0.065 (0.095)	0.064 (0.097)	0.116 (0.159)
D.Phy. Infrastructure	0.229*** (0.084)	-0.072 (0.254)	0.435** (0.203)	0.110 (0.110)	0.463*** (0.086)
D.Governance	0.208* (0.112)	0.575 (0.524)	0.510* (0.304)	-0.046 (0.151)	0.069 (0.117)
Long-run					
Terrorism	0.006 (0.008)	0.185*** (0.047)	0.123*** (0.034)	-0.056*** (0.011)	0.009 (0.009)
ICT Infrastructure	0.251*** (0.014)	0.231*** (0.031)	0.109*** (0.042)	0.132*** (0.020)	0.642*** (0.029)
Phy. Infrastructure	0.457*** (0.060)	0.258 (0.203)	4.496*** (0.283)	-0.0003 (0.089)	0.485*** (0.076)
Governance	-0.103 (0.086)	-0.309 (0.383)	-0.547 (0.476)	-0.055 (0.098)	0.202* (0.106)
Constant	5.931*** (0.425)	5.379*** (1.469)	0.776** (0.320)	5.747*** (1.175)	6.821*** (0.683)
Observations	1734	170	493	459	612
Hausman Test Result					
MG & PMG	3.89 (0.422)	3.47 (0.482)	16.78 (0.002)	4.12 (0.391)	0.66 (0.9956)
PMG & DFE	1.01 (0.907)	0.11 (0.998)	3.96 (0.411)	0.13 (0.998)	0.13 (0.998)

***, **, and * shows statistical significance at 1%, 5%, and 10%, respectively, while values in parenthesis are standard errors

adoption rate is slow in most parts of the world. Therefore, in the short run, ICT does not play a significant role in tourism development.

The governance positively influences tourism in the overall sample in the short run, but its coefficient, in the long run, is negative and statistically insignificant. The governance is only positive and significant at 10% in high-income countries in the long run, while its coefficient is negative

and insignificant in developing countries. There can be several reasons for these results. First, many developing countries suffer political instability, leading to weak policy implementation. Second, corruption in developing countries and bureaucratic red tape create hurdles and obstruct business activities, including the tourism sector. Third, the weak law and order situation in many developing countries can also be the reason for this result. Fourth, in many

developing countries, civil bureaucracy is inefficient and military establishment plays a key role in decision making, which leads to poor policy formation and weak coordination among government agencies. Similarly, the situation of human rights in developing countries is not satisfactory, which leads to a poor ranking of these countries in the voice and accountability index. All the above factors contribute to the developing countries' weak performance in tourism.

The impact of terrorism on tourism is positive and statistically insignificant in the short-run and long-run in the overall sample. However, in the long run, terrorism positively and significantly affects tourism at 1% in the low and lower-middle-income countries while negatively influencing tourism in the upper-middle-income countries.

Many previous studies found the negative impact of terrorism on tourism (Asongu & Acha-Anyi, 2020; Bassil, 2014; Llorca-Vivero, 2008; Nadeem et al., 2020; Raza & Jawaid, 2013; Stankova et al., 2019). However, in the current study, we observed a positive impact of terrorism on tourism in low and lower-middle-income countries, which is contradictory to the previous literature. The possible reason for this result is that tourist spots in these countries may not be affected by terrorism. According to Fourie et al. (2020) and Seabra et al. (2020), tourists from safe countries favor traveling to countries with a comparable level of security. In contrast, tourists from unstable countries are less

concerned with the insecurity situation in the destination country. Baggio and Sainaghi (2011) argued that tourist flow might affect in the short run due to terrorism, but in the long run, tourists may return to the place of their choice.

Hausman test results show that only lower-middle-income countries' P-value is less than 0.05, indicating the MG model's selection. However, we mentioned PMG model results to maintain consistency and for comparison purposes among different income groups. In contrast, the DFE model selection is impossible as the P-value is greater than .05.

Regional Analysis

We also conducted a regional analysis for a robustness check and used World Economic Forum (2019) regional classification. Regional analysis is required in addition to the overall analysis as there are stark differences between countries belonging to different regions. Therefore, the regional analysis is the backbone of this study, showing similarities and differences among different world regions depending on their characteristics. The Travel and Tourism Competitive Report 2019 by the World Economic Forum divides the world into five regions: the Americas, Asia-pacific, Europe and Eurasia, Middle East and North Africa (MENA), and Sub-Saharan Africa.

Table 7 shows descriptive statistics of each region. The mean value of terrorism is highest in the Asia Pacific region, followed by the MENA region, and lowest in the Americas. Despite the highest mean score

Table 7
Descriptive analysis by region of the world

Variable	Europe & Eurasia					Asia Pacific				
	Obs	Mean	Std.Dev	Min	Max	Obs	Mean	Std.Dev	Min	Max
Terrorism	612	2.107	2.037	0	7.519	270	3.494	2.848	0	8.931
Tourism (Million \$)	612	13100	17700	5	81300	270	11900	14300	59	65200
ICT Infrastructure	612	55.991	28.202	0.055	98.046	270	32.774	30.928	0.140	96.158
Phy. Infrastructure	612	24.045	5.627	9.137	57.990	270	28.057	7.729	14.123	58.151
Governance	612	0.552	0.939	-1.223	1.969	270	-0.028	0.906	-1.311	1.862
The Americas										
Variables	Obs	Mean	Std.Dev	Min	Max	Obs	Mean	Std.Dev	Min	Max
Terrorism	396	2.208	2.010	0	7.002	324	01.864	1.782	0	8.034
Tourism (Millions \$)	396	900	1930	1	11200	324	12900	43400	76	256000
ICT Infrastructure	396	11.613	13.689	0.072	63.999	324	37.208	25.301	0.893	91.16
Phy. Infrastructure	396	21.350	8.384	1.525	53.988	324	21.915	5.862	9.138	44.308
Governance	396	-0.552	0.553	-1.607	0.8546	324	-0.084	0.828	-1.784	1.675
The Middle East & North Africa (MENA)										
Variables	Obs	Mean	Std.Dev	Min	Max	Obs	Mean	Std.Dev	Min	Max
Terrorism	234	2.845	2.240	0	7.345	234	2.845	2.240	0	7.345
Tourism (Millions)	234	5080	4380	111	21400	234	5080	4380	111	21400
ICT Infrastructure	234	45.172	28.990	1.592	100	234	45.172	28.990	1.592	100
Phy. Infrastructure	234	27.266	8.447	12.835	50.780	234	27.266	8.447	12.835	50.780
Governance	234	-0.175	0.527	-1.232	0.818	234	-0.175	0.527	-1.232	0.818

in terrorism, Asia Pacific is in third place in tourism receipts, only eight percent lower than the Americas, which has the lowest mean score for terrorism. Asia Pacific region has the highest mean score for physical infrastructure, indicating it has a solid worldwide and homegrown travel industry market. In Europe and Eurasia, terrorism has a low mean value, and this region has performed well on all other indicators.

MENA region has the highest mean value for terrorism after the Asia Pacific region, and its performance in the governance structure is also not very impressive. In contrast, this region has better-quality ICT and physical infrastructure than other regions in the study. MENA region is additionally the sole region where international visitor spending is more prominent than domestic visitor spending. Nevertheless, despite improved competitiveness and a strong reliance on tourism for the overall economic process, MENA regions continue to underperform in the worldwide Travel and Tourism Competitiveness Index (TTCI). The intensity of terrorism is the lowest in the Americas and has the second-highest tourism receipts after Europe and Eurasia. However, it is ranked third in ICT and governance and fourth in physical infrastructure. Since 1995, the number of international tourists has grown by 330% for Central America and 230% for South America (World Tourism Organization, 2013).

Results of Panel ARDL based on different regions of the world are presented in Table 8. The ECT coefficient is less than one for all regions, which shows

convergence speed. Europe and Eurasia has the highest convergence rate (0.37), while Sub-Saharan Africa (SSA) has the lowest convergence rate (0.22) among all regions. Statistically, significant ECT means a long-run relationship exists between tourism receipt, terrorism, ICT infrastructure, physical infrastructure, and governance structure.

Long-run results show that terrorism is positively and significantly related to tourism in MENA, Sub-Saharan Africa, and the Asia Pacific. However, in the short run, it does not influence tourism. There are many possible reasons for these findings. First, there are many religious sacred places of different religions in these regions, and pilgrims visit these places as a religious obligation. For example, Muslims go for Hajj in Saudi Arabia and visit their sacred places in other nations in MENA countries. The Sikhs and Hindus visit Pakistan for their sacred places, and Jews visit Temple Mount in Jerusalem as a religious obligation. Second, these countries do not observe the continuous and enduring existence of terrorist activities but isolated terrorism incidents here and there. Saha and Yap (2014) stated that isolated terrorist incidents are less detrimental to tourism. Third, terrorist incidents in these regions are not frequently propagated to international media, and sometimes these incidents have only regional importance; that is why tourism arrival to these regions is not negatively influenced.

ICT shows a positive and significant relationship with tourism receipts in the long run, except for Sub-Saharan Africa, which

Table 8
Panel ARDL estimation results for different regions of the world

Variable	Europe & Eurasia	The Middle East & North Africa	Sub-Saharan Africa	Americas	Asia Pacific
ECT	-0.370*** (0.042)	-0.340*** (0.121)	-0.220*** (0.083)	-0.240*** (0.031)	-0.142** (0.067)
D.Terrorsim	0.038 (0.042)	-0.007 (0.023)	0.026 (0.028)	-0.005 (0.010)	-0.036 (0.026)
D.ICT Infrastructure	0.159 (0.155)	0.162 (0.184)	-0.096 (0.113)	-0.211** (0.103)	0.137 (0.136)
D.Phy. Infrastructure	0.417*** (0.077)	0.084 (0.181)	0.121 (0.266)	0.264*** (0.101)	0.215 (0.196)
D.Governance	0.175 (0.156)	0.205 (0.375)	0.238 (0.363)	0.266* (0.155)	0.068 (0.243)
Long-run					
Terrorism	0.013 (0.010)	0.091*** (0.011)	0.847*** (0.109)	-0.042 (0.029)	0.250*** (0.038)
ICT Infrastructure	0.312*** (0.027)	0.481*** (0.022)	-0.216*** (0.027)	0.234*** (0.043)	0.469*** (0.035)
Phy. Infrastructure	0.425*** (0.066)	-0.232* (0.120)	1.128*** (0.200)	0.497** (0.194)	0.806*** (0.177)
Governance	-0.393*** (0.103)	0.347** (0.136)	-2.775*** (0.437)	1.198*** (0.267)	0.538** (0.253)
Constant	7.492*** (0.864)	7.116*** (2.549)	2.839*** (1.081)	4.691*** (0.600)	2.555** (1.178)
Observations	578	221	374	306	255
Hausman Test Results					
MG & PMG	3.32(0.505)	1.24(0.872)	10.27(0.036)	0.53(0.970)	5.04(0.283)
PMG & DFE	0.45(0.978)	4.74(0.315)	1.49(0.828)	0.00(1.00)	0.24(0.993)

Note. ***, **, and * shows statistical significance at 1%, 5%, and 10%, respectively, while values in parenthesis are standard errors

is negative. Similarly, the ICT coefficient is negative and significant in the short-run for the Americas. The negative impact of ICT on tourism is contradictory to the previous studies; however, the possible reason for this effect is the lack of ICT infrastructure in Sub-Saharan Africa. Contrary to our findings, Adeola and Evans (2020) asserted ICT's positive impact on Africa's tourism. It may be due to the difference in the number of countries included in the sample and

proxies used to measure the ICT. Physical infrastructure enhances tourism in Europe, Eurasia, and the American region in the short run. At the same time, it fosters tourism in all regions except MENA, where its effect is negative at the 10% level of significance. This finding contradicts Adeola and Evans (2019), who found a positive impact of physical infrastructure in Africa.

In the long run, the governance structure is positively and significantly related to

tourism in the Americas, MENA, and Asia Pacific region. Our findings match the previous studies (Detotto et al., 2021; Dritsakis, 2004; Fayissa et al., 2008). However, only in the Americas region does governance plays a role in fostering tourism in the short run. Interestingly, governance is negatively related to tourism income in Europe and Eurasia, and Sub-Saharan Africa in the long run. This finding contradicts the existing literature, which states that good governance promotes tourism. Tang (2018) stated that tourists are more concerned about the political stability in a destination country.

Similarly, Saha and Yap (2014) reported that state political instability is more detrimental to tourism than an isolated terrorism incident. Based on these studies, we can conclude that many countries in Eurasia and sub-Saharan Africa are politically unstable, leading to weak implementation of rules and laws. That is why we observed a negative impact on governance in both regions. Hausman test results reveal that the PMG model is selected over MG as the

P-value is greater than .05. On the contrary, only the P-value of Sub-Saharan Africa is less than .05, which specifies that the MG model can also be used to maintain the consistency we selected PMG.

Dumitrescu-Hurlin Granger Causality Test in Panel Data

Dumitrescu-Hurlin panel Granger causality is applied to check the causative relationship between the analyzed variables (Dumitrescu & Hurlin, 2012).

Results from the Granger causality test in Table 9 revealed a unidirectional causality from Tourism receipt to terrorism, supported by previous studies such as Raza and Jawaid (2013). Our study found bidirectional causality among physical infrastructure and tourism receipts, and the results are supported by Mustafa (2019). However, there is no causality from ICT infrastructure to tourism receipt and from governance to tourism receipt. It is worth noting that physical infrastructure and tourism both have bidirectional causality because both are interrelated in generating cash inflow in

Table 9
Dumitrescu-Hurlin Panel Granger causality test

Hypothesis	W- bar	Z-bar tilde	P-Value	Result	Conclusion
Terrorism → Tourism	8.193	1.236	0.244	No	Unidirectional causality from Tourism to Terrorism
Tourism → Terrorism	13.193	5.862	0.007	Yes	
ICT Infrastructure → Tourism	10.647	3.223	0.095	No	No causality between ICT Infrastructure and Tourism
Tourism → ICT Infrastructure	9.373	2.191	0.157	No	
Physical Infrastructure → Tourism	11.839	4.187	0.018	Yes	Bidirectional causality between Physical Infrastructure and Tourism
Tourism → Physical Infrastructure	15.557	7.199	0.003	Yes	
Governance → Tourism	9.125	1.990	0.118	No	No Causality between Governance and Tourism

countries that ultimately increase their gross domestic product. However, the study found no causal relationship between governance structure and tourism.

CONCLUSION

This study investigated the effect of terrorism, ICT and physical infrastructure, and governance structure on tourism receipts of 102 countries for the period 2002–2019 by using Panel ARDL. The Panel ARDL approach confirmed the long-run relationship among the variables. The result of the overall sample revealed that physical and ICT infrastructure have a positive and statistically significant impact on tourism. Whereas governance structure has a negative and terrorism has a positive impact on tourism, both effects are not statistically significant. This study divided the overall sample into different income groups and regions for robustness analysis. The results showed that governance structure has an optimistic influence on the tourism income of high-income countries while ICT and physical infrastructure positively affect the income of the different income groups. However, terrorism positively impacts tourism in the long run, except for the upper-middle-income sample. Regional analysis showed a positive relationship between terrorism and tourism in MENA, Sub-Saharan Africa, and the Asia Pacific, indicating that despite terrorism incidents, tourism is gaining traction in these regions. ICT has a positive impact on tourism in Europe and Eurasia, MENA, America, and the Asia Pacific, while it has an adverse

impact on tourism in Sub-Saharan Africa. Physical infrastructure positively impacts tourism in Europe and Eurasia, Sub-Saharan Africa, Asia Pacific, and the Americas, whereas the impact is negative in MENA. The governance structure positively affects tourism in MENA, Asia Pacific, and America while negatively affecting Sub-Saharan Africa, Europe, and Eurasia.

Furthermore, DH causality results showed unidirectional causation from Tourism receipt to terrorism. In contrast, bidirectional causality exists between physical infrastructure and tourism because both generate cash inflow in countries that will increase their gross domestic product. DH results revealed no causal relationship between ICT infrastructure, governance structure, and tourism. This study concludes that governance structure positively influences tourism only in high-income nations while physical and ICT infrastructure are significant factors. Therefore, it is suggested that governments must invest in physical and ICT infrastructure to develop the tourism sector. Furthermore, governments must decrease terrorism with all means and advance governance structures to develop tourism.

Policy Implications

The results of this study have certain policy implications. Terrorism in any form and any tendency would be a devastating blow for the tourism industry as it influences the location choice of tourists. Therefore, to boost tourism income world must take rigorous

steps to minimize any chances of terror activities. For this purpose, individual states need to build the capacity of law enforcement agencies to tackle terrorism incidents. At the same time, there is a need for global coordination among international agencies to curb terrorism. There is also a need to investigate the root cause of terrorism, and the world must jointly make strategies to eliminate such root causes. Finally, there is a dire need to improve the governance structure as government efficiency and supervisory quality significantly influence the capability of a state to produce vacation industry income.

Better Physical and ICT infrastructure play a significant role in attracting tourists. There is also a need to install better information communication technologies, especially in remote areas, to resolve the connectivity issues to enhance tourists' exposure to distant tourist places.

Given this, policymakers and governments need to pay more attention to ICT and Physical infrastructure development. All stakeholders in the tourism industry are responsible for collaborating to develop policies and applications that will maximize the potential benefits of physical and ICT infrastructure to every level of tourism, travel, and hospitality enterprises. Tourism organizations can use the internet for promotion through pop-ups, newsletters, websites, and search engine optimization strategies. Artificial intelligence, machine learning and fintech can play a pivotal role in understanding tourists' arrival patterns, spending patterns, and decision choices

and can facilitate tourists through the development of innovative solutions.

Limitation of the Study

This study has several limitations that future studies can address. The COVID-19 pandemic severely affected the travel and tourism industry. Future studies can investigate the effect of COVID-19 on the travel & tourism industry. Future studies can also analyze the non-linear relationship among these variables and calculate the turning points at which any independent variable changes its sign from positive to negative or vice versa on tourism. Furthermore, future studies can also study the interaction effect of ICT, physical infrastructure, governance structure, and terrorism on tourism. Furthermore, future research can employ alternative proxies for Physical and ICT infrastructure.

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APPENDIX*List of countries included in the sample*

Country	Region*	Income**
Albania	Europe and Eurasia	Upper-Middle-Income Economies
Algeria	Middle East and North Africa (MENA)	Lower-Middle Income Economies
Angola	Sub-Saharan Africa	Lower-Middle Income Economies
Argentina	The Americas	Upper-Middle-Income Economies
Armenia	Europe and Eurasia	Upper-Middle-Income Economies
Australia	Asia Pacific	High-Income Economies
Austria	Europe and Eurasia	High-Income Economies
Azerbaijan	Europe and Eurasia	Upper-Middle-Income Economies
Bahrain	Middle East and North Africa (MENA)	High-Income Economies
Bangladesh	Asia Pacific	Lower-Middle Income Economies
Belgium	Europe and Eurasia	High-Income Economies
Benin	Sub-Saharan Africa	Lower-Middle Income Economies
Bolivia	The Americas	Lower-Middle Income Economies
Bosnia and Herzegovina	Europe and Eurasia	Upper-Middle-Income Economies
Brazil	The Americas	Upper-Middle-Income Economies
Bulgaria	Europe and Eurasia	Upper-Middle-Income Economies
Burundi	Sub-Saharan Africa	Low-Income Economies
Cambodia	Asia Pacific	Lower-Middle Income Economies
Cameroon	Sub-Saharan Africa	Lower-Middle Income Economies
Canada	The Americas	High-Income Economies
Chile	The Americas	High-Income Economies
China	Asia Pacific	Upper-Middle-Income Economies
Colombia	The Americas	Upper-Middle-Income Economies
Costa Rica	The Americas	Upper-Middle-Income Economies
Cote d'Ivoire	Sub-Saharan Africa	Lower-Middle Income Economies
Cyprus	Europe and Eurasia	High-Income Economies
Czech Republic	Europe and Eurasia	High-Income Economies
Denmark	Europe and Eurasia	High-Income Economies
Ecuador	The Americas	Upper-Middle-Income Economies
Egypt, Arab Rep.	Middle East and North Africa (MENA)	Lower-Middle Income Economies
Estonia	Europe and Eurasia	High-Income Economies
Ethiopia	Sub-Saharan Africa	Low-Income Economies
Finland	Europe and Eurasia	High-Income Economies
France	Europe and Eurasia	High-Income Economies
Georgia	Europe and Eurasia	Upper-Middle-Income Economies
Germany	Europe and Eurasia	High-Income Economies
Greece	Europe and Eurasia	High-Income Economies
Guatemala	The Americas	Upper-Middle-Income Economies
Guinea-Bissau	Sub-Saharan Africa	Low-Income Economies
Haiti	The Americas	Low-Income Economies
Honduras	The Americas	Lower-Middle Income Economies

Country	Region*	Income**
Hungary	Europe and Eurasia	High-Income Economies
India	Asia Pacific	Lower-Middle Income Economies
Indonesia	Asia Pacific	Upper-Middle-Income Economies
Iran, Islamic Rep.	Middle East and North Africa (MENA)	Upper-Middle-Income Economies
Ireland	Europe and Eurasia	High-Income Economies
Israel	Middle East and North Africa (MENA)	High-Income Economies
Italy	Europe and Eurasia	High-Income Economies
Japan	Asia Pacific	High-Income Economies
Jordan	Middle East and North Africa (MENA)	Upper-Middle-Income Economies
Kazakhstan	Europe and Eurasia	Upper-Middle-Income Economies
Kenya	Sub-Saharan Africa	Lower-Middle Income Economies
Kuwait	Middle East and North Africa (MENA)	High-Income Economies
Kyrgyz Republic	Europe and Eurasia	Lower-Middle Income Economies
Lao PDR	Asia Pacific	Lower-Middle Income Economies
Lebanon	Middle East and North Africa (MENA)	Upper-Middle-Income Economies
Lesotho	Sub-Saharan Africa	Lower-Middle Income Economies
Malawi	Sub-Saharan Africa	Low-Income Economies
Mali	Sub-Saharan Africa	Low-Income Economies
Mauritius	Sub-Saharan Africa	High-Income Economies
Moldova	Europe and Eurasia	Lower-Middle Income Economies
Mongolia	Asia Pacific	Lower-Middle Income Economies
Morocco	Middle East and North Africa (MENA)	Lower-Middle Income Economies
Mozambique	Sub-Saharan Africa	Low-Income Economies
Namibia	Sub-Saharan Africa	Upper-Middle-Income Economies
Netherlands	Europe and Eurasia	High-Income Economies
New Zealand	Asia Pacific	High-Income Economies
Nicaragua	The Americas	Lower-Middle Income Economies
Nigeria	Sub-Saharan Africa	Lower-Middle Income Economies
Norway	Europe and Eurasia	High-Income Economies
Pakistan	Asia Pacific	Lower-Middle Income Economies
Panama	The Americas	High-Income Economies
Paraguay	The Americas	Upper-Middle-Income Economies
Peru	The Americas	Upper-Middle-Income Economies
Philippines	Asia Pacific	Lower-Middle Income Economies
Qatar	Middle East and North Africa (MENA)	High-Income Economies
Romania	Europe and Eurasia	High-Income Economies
Russia	Europe and Eurasia	Upper-Middle-Income Economies
Rwanda	Sub-Saharan Africa	Low-Income Economies
Saudi Arabia	Middle East and North Africa (MENA)	High-Income Economies
Senegal	Sub-Saharan Africa	Lower-Middle Income Economies
Serbia	Europe and Eurasia	Upper-Middle-Income Economies
South Africa	Sub-Saharan Africa	Upper-Middle-Income Economies
South Korea	Asia Pacific	High-Income Economies
Spain	Europe and Eurasia	High-Income Economies

Country	Region*	Income**
Sri Lanka	Asia Pacific	Lower-Middle Income Economies
Swaziland	Sub-Saharan Africa	Lower-Middle Income Economies
Sweden	Europe and Eurasia	High-Income Economies
Switzerland	Europe and Eurasia	High-Income Economies
Tajikistan	Europe and Eurasia	Low-Income Economies
Tanzania	Sub-Saharan Africa	Lower-Middle Income Economies
Thailand	Asia Pacific	Upper-Middle-Income Economies
Tunisia	Middle East and North Africa (MENA)	Lower-Middle Income Economies
Turkey	Europe and Eurasia	Upper-Middle-Income Economies
Uganda	Sub-Saharan Africa	Low-Income Economies
Ukraine	Europe and Eurasia	Lower-Middle Income Economies
United Arab Emirates	Middle East and North Africa (MENA)	High-Income Economies
United Kingdom	Europe and Eurasia	High-Income Economies
United States	The Americas	High-Income Economies
Uruguay	The Americas	High-Income Economies
Venezuela, RB	The Americas	Upper-Middle-Income Economies
Zimbabwe	Sub-Saharan Africa	Lower-Middle Income Economies

*Region Classification based on the Travel & Tourism Report 2019

** Income classification based on World Bank classification



Modaliti dalam Teks Perutusan Khas Perintah Kawalan Pergerakan (PKP) untuk Membendung Penularan Wabak COVID-19 di Malaysia

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ABSTRAK

Ucapan merupakan salah satu peristiwa bahasa yang melibatkan penyampaian maklumat yang mampu mencerminkan hubungan sosial. Hubungan sosial ini boleh digambarkan menerusi penggunaan modaliti tertentu. Sehubungan dengan itu, makalah ini bertujuan untuk mengenal pasti penggunaan modaliti oleh Perdana Menteri Malaysia Kelapan dalam teks ucapan Perintah Kawalan Pergerakan (PKP) dan menjelaskan hubungan sosial yang dibina berdasarkan penggunaan modaliti tertentu. Sebanyak lapan teks ucapan telah dimuat turun menerusi laman sesawang rasmi Pejabat Perdana Menteri (<https://www.pmo.gov.my/speech/>). Pendekatan kualitatif dan kuantitatif telah diterapkan bersama teori analisis wacana kritis yang dibangunkan oleh Fairclough (2013). Hasil penelitian mendapati bahawa sepuluh jenis modaliti telah digunakan, iaitu modaliti 'boleh', 'dapat', 'nak', 'mesti', 'mungkin', 'perlu', 'ingin', 'hendak', 'pasti' dan 'mahu'. Modaliti yang digunakan oleh pewacana juga mempunyai dua tujuan, iaitu untuk memberikan perintah

dan menyampaikan informasi. Berdasarkan perbandingan, modaliti informatif lebih banyak digunakan berbanding dengan modaliti perintah. Penggunaan modaliti informatif telah membuktikan bahawa pewacana cenderung membina hubungan sosial yang santai dengan pendengar apabila menyampaikan maklumat. Penggunaan modaliti perintah juga menunjukkan bahawa

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pewacana turut membentuk hubungan sosial yang tegas dengan pendengar apabila mengusulkan permintaannya. Secara jelas, kajian ini bukan sahaja menganalisis aspek bahasa semata-mata, tetapi turut menjelaskan cara bahasa disusun atur oleh kerajaan untuk menyampaikan maklumat ketika negara mengalami darurat kesihatan global.

Kata kunci: COVID-19, modaliti, Perdana Menteri Malaysia, Perintah Kawalan Pergerakan (PKP), teks perutusan

Modality in the Movement Control Order (MCO) Speech Texts to Curb the Spread of COVID-19 in Malaysia

ABSTRACT

Speech is a form of language involving the delivery of information that enhances social interactions. Certain modalities are used to characterize these social relationships. Therefore, this study aims to identify the modalities employed by Malaysia's Prime Minister in the Movement Control Order (MCO) speech text and to describe the social interactions attempted to be established based on the usage of these modalities. Eight speech texts are downloaded from the official website of the Prime Minister's Office (<https://www.pmo.gov.my/speech/>). Qualitative and quantitative approaches are applied alongside Fairclough's (2013) critical discourse analysis theory. The results of the study revealed that there are ten types of modalities used, namely the modality 'boleh', 'dapat', 'nak', 'mesti', 'mungkin', 'perlu', 'ingin', 'hendak', 'pasti' dan 'mahu'. The speaker's modalities are utilised for two different purposes, namely to give commands and convey information. In comparison, the informative modality is more often utilised than the command modality. The informative modalities usage has proven that the speaker tends to build social relationships that are relaxed in nature with listeners. On the other hand, the command modality usage has hinted that the speaker also builds a formal and serious social relationship with the listeners when proposing his requests. This study not only examines the aspects of language alone but also explores how political organisations manage language in speech texts to convey information when a country is experiencing a global health emergency.

Keywords: COVID-19, modality, Movement Control Order (MCO), Prime Minister of Malaysia, speech text

PENGENALAN

Sewaktu penularan wabak COVID-19 di Malaysia, kerajaan Malaysia telah mengambil pelbagai langkah dengan pelaksanaan beberapa fasa Perintah Kawalan Pergerakan (PKP). Sewaktu PKP dilaksanakan, terdapat

pelbagai larangan yang perlu dipatuhi oleh orang ramai. Sewaktu pelaksanaan beberapa fasa PKP juga, Perdana Menteri Malaysia telah menjadikan teks perutusan khas sebagai alat untuk menyampaikan maklumat yang berkaitan dengan

pelaksanaan perintah tersebut kepada rakyat. Selain mengandungi maklumat tentang pelaksanaan PKP, perutusan khas tersebut juga mengandungi pelbagai maklumat lain, seperti punca penularan, langkah pencegahan, penawar dan banyak lagi. Penyampaian teks perutusan khas ini menunjukkan bahawa terdapat peristiwa bahasa yang berlaku. Peristiwa bahasa yang dimaksudkan dalam makalah ini merujuk cara pewacana mengorientasikan bahasanya untuk mencapai matlamat tertentu.

Dalam konteks wacana politik, Wodak (2009) menegaskan bahawa bahasa yang digunakan dalam ucapan politik merupakan alat yang menggabungkan idea. Menurut Rohaidah Haron et al. (2019), bahasa penting bagi seseorang pemimpin kerana pelbagai perkara boleh ditafsir melalui wacana seseorang pemimpin. Dalam teks perutusan khas PKP, bahasa yang digunakan oleh pewacana bukan sahaja dijadikan alat untuk menyampaikan idea semata-mata, tetapi bahasanya juga mampu menggambarkan hubungan sosial yang ingin dibina dengan rakyatnya. Hubungan sosial ini boleh digambarkan menerusi penggunaan modaliti tertentu. Menurut Idris Aman (2006), penelitian terhadap modaliti bukan sahaja bertujuan untuk memahami aspek ideasional, seperti memberikan maklumat dan menggambarkan tanggungjawab semata-mata, tetapi modaliti juga berperanan untuk mengesan aspek interpersonal, iaitu hubungan sosial.

Walaupun terdapat beberapa kajian lepas yang meneliti aspek modaliti, fokus kajian tetap berlainan mengikut tujuan

kajian masing-masing. Penggunaan modaliti yang lebih menyeluruh juga perlu diberikan perhatian. Setakat yang diteliti, kajian-kajian lepas yang melibatkan aspek modaliti telah meneliti hubungan sosial antara pemimpin utama dengan rakyat, pemimpin dengan pemimpin yang berlainan posisi parti dan pengirim dengan penerima warkah sosial. Hal ini menunjukkan bahawa kajian modaliti yang meneliti hubungan sosial antara pemimpin dengan rakyat ketika berhadapan dengan ancaman COVID-19 di Malaysia masih belum dilakukan. Oleh itu, kajian ini bertujuan untuk mengenal pasti penggunaan modaliti dalam teks ucapan PKP dan menghuraikan hubungan sosial yang dibina antara Perdana Menteri Malaysia dengan rakyatnya.

SOROTAN KAJIAN

Sorotan kajian dalam makalah ini dikelaskan kepada dua bahagian, iaitu kajian linguistik yang melibatkan wabak COVID-19 dan kajian yang berkaitan dengan modaliti. Daripada sudut linguistik, kemunculan wabak COVID-19 dilihat telah membuka ruang kepada pembentukan istilah baharu dalam sesebuah bahasa, seperti bahasa Melayu (Junaini Kasdan et al., 2020), bahasa Arab (Haddad & Montero-Martínez, 2020), bahasa Jerman (Kuße, 2021) dan bahasa Inggeris (Al-Salman & Haider, 2021). Menurut Kuße (2021), wabak COVID-19 telah mewujudkan banyak istilah baharu pada skala yang besar. Junaini Kasdan et al. (2020) turut menambah dengan menyatakan bahawa pembentukan istilah baharu yang disebabkan oleh penularan

wabak COVID-19 telah memperkaya perbendaharaan kata bahasa Melayu dan sekali gus menyebabkan bahasa Melayu terus berkembang selari dengan peredaran zaman.

Kemunculan wabak COVID-19 juga telah meningkatkan penggunaan metafora peperangan dalam teks ucapan pemimpin negara dan media berita di Perancis (Combes, 2020), Sepanyol (Rico & Herrero, 2020) dan United Kingdom (Tisdall, 2020). Menurut Olimat (2020), bekas Presiden Amerika Syarikat, iaitu Donald Trump turut memanfaatkan metafora peperangan untuk menaikkan semangat rakyatnya ketika berhadapan dengan ancaman wabak COVID-19. Hasil yang sama juga ditemukan dalam kajian Kumaran (2020) apabila Perdana Menteri Malaysia dan Presiden Singapura memanfaatkan metafora peperangan untuk meletakkan rakyat mereka dalam keadaan yang 'diancam'. Pemimpin negara juga dilihat telah menggunakan pelbagai strategi retorik. Menurut Alkhawaldeh (2021), kerajaan Jordan telah menggunakan strategi retorik untuk meyakinkan orang ramai agar menyokong usaha mengekang ancaman wabak COVID-19.

Teknik retorik penghujahan yang digunakan melalui frasa "*saving lives*" ("menyelamatkan nyawa") telah menggesa warga New Zealand untuk membendung wabak COVID-19 (Bui et al., 2021). Perdana Menteri Pakistan, iaitu Imran Khan juga telah menggunakan strategi retorik penghujahan untuk memujuk orang ramai agar mengikuti langkah berjaga-

jaga dengan pemanfaatan frasa "*the only cure*" ("satu-satunya penawar") semasa ketiadaan vaksin pada ketika itu (Iqbal et al., 2020). Secara keseluruhan, kajian linguistik yang melibatkan wabak COVID-19 telah mendapat perhatian pengkaji-pengkaji terdahulu dengan fokus dan tujuan kajian yang berbeza-beza. Keadaan ini turut memberikan persepsi bahawa wabak COVID-19 perlu diselidiki daripada sudut linguistik dengan fokus atau tujuan yang pelbagai.

Daripada sudut kajian yang melibatkan modaliti, Idris Aman (2006) telah meneliti penggunaan modaliti dalam 18 teks perutusan tahun baharu yang disampaikan oleh Perdana Menteri Malaysia Keempat, iaitu Mahathir Mohamad. Hasil kajian menunjukkan bahawa modaliti perintah yang digunakan oleh Mahathir Mohamad lebih dominan berbanding dengan modaliti informatif. Dominasi ini telah menunjukkan bahawa perutusan ini sarat dengan permintaan terhadap rakyat yang dipimpinnya. Dominasi modaliti perintah juga secara tidak langsung telah mempamerkan amalan kepimpinan Mahathir Mohamad yang bersifat tegas. Amalan kepimpinan tegas merujuk nilai kesungguhan pewacana dalam usaha mengutarakan idealisme kepimpinannya kepada rakyat. Menurut Idris Aman (2006), penggunaan modaliti ini selari dengan zaman kepimpinan beliau yang meminta-minta untuk membangunkan ekonomi baharu.

Kemudian, Rohaidah Haron (2016) pula menganalisis penggunaan modaliti dalam siri ucapan Perdana Menteri Malaysia

Kelima, iaitu Mohd Najib Razak dalam Perhimpunan Agung Parti Politik United Malays National Organisation (UMNO). Rohaidah Haron mendapati bahawa Mohd Najib Razak telah menggunakan modaliti perintah 'perlu' lebih banyak berbanding dengan 'mesti.' Menurut Rohaidah Haron lagi, modaliti 'perlu' lebih bersifat toleransi, manakala modaliti 'mesti' mempunyai maksud yang lebih tegas. Dominasi modaliti 'perlu' telah menunjukkan bahawa Mohd Najib Razak telah mengambil pendekatan mesra rakyat dan tidak menampakkan beliau menggunakan kuasa atau paksaan sebagai seorang ketua ketika mengusulkan permintaannya kepada rakyat. Secara tidak langsung, penggunaan modaliti 'perlu' ini juga telah menunjukkan imej mesra yang cuba ditonjolkan oleh Mohd Najib Razak kepada rakyat yang dipimpinnya.

Selain itu, Muhammad Hisyam Haliah dan Ab. Razak Ab. Karim (2019) membincangkan penggunaan modaliti dalam warkah-warkah sosial Melayu dari abad ke-17 hingga abad ke-19. Menurut Muhammad Hisyam Haliah dan Ab. Razak Ab. Karim, modaliti menunjukkan cara pengirim mengekspresikan sikap terhadap sesuatu yang dibangkitkan dalam kandungan warkah. Dayang Sariah Abang Suhai et al. (2020) meneliti modaliti yang digunakan oleh dua buah pihak dalam perbahasan parlimen di Malaysia, iaitu pihak kerajaan dan pembangkang. Berdasarkan penelitian, hubungan sosial yang dibina oleh pihak kerajaan bersifat serius dan lebih berkuasa kerana menggunakan modaliti perintah dengan kerapnya. Hubungan sosial yang

dibina oleh pihak pembangkang pula bersifat santai kerana menggunakan modaliti informatif yang banyak. Dapatan Dayang Sariah Abang Suhai et al. telah memberikan implikasi bahawa penggunaan modaliti antara pihak kerajaan dengan pembangkang mampu menunjukkan kekuasaan bahasa.

METODOLOGI KAJIAN

Kajian ini memanfaatkan dua pendekatan, iaitu pendekatan kuantitatif dan kualitatif. Pendekatan kuantitatif yang dimanfaatkan dalam kajian ini bertujuan untuk mengira kekerapan setiap jenis modaliti yang digunakan dalam teks perutusan khas PKP. Kekerapan setiap jenis modaliti amat penting kerana pola penggunaannya mampu menggambarkan hubungan sosial (Fairclough, 2013). Dalam pendekatan kualitatif, pengkaji akan menggunakan kaedah analisis kandungan. Kaedah analisis kandungan digunakan untuk mentafsir dan menghuraikan penggunaan setiap jenis modaliti yang terdapat dalam teks perutusan khas PKP.

Data Kajian

Terdapat lapan teks perutusan khas PKP telah dijadikan sebagai data kajian. Teks ini telah disampaikan oleh Perdana Menteri Malaysia Kelapan, iaitu Muhyiddin Mohd Yassin. Teks ini telah dimuat turun melalui laman sesawang rasmi Pejabat Perdana Menteri (2021) yang diperoleh pada 20 Mei 2021. Jadual 1 di bawah menunjukkan butiran penuh teks perutusan khas PKP yang dijadikan sebagai data kajian.

Jadual 1

Butiran penuh teks perutusan khas PKP

Abj.	Tajuk	Tarikh Diterbitkan
A.	Perutusan Khas: Perintah Kawalan Pergerakan (PKP) Fasa 1	16 Mac 2020
B.	Perutusan Khas: Perintah Kawalan Pergerakan (PKP) Fasa 2	25 Mac 2020
C.	Perutusan Khas: Perintah Kawalan Pergerakan (PKP) Fasa 3	10 April 2020
D.	Perutusan Khas: Perintah Kawalan Pergerakan (PKP) Fasa 4	23 April 2020
E.	Perutusan Khas: Perintah Kawalan Pergerakan Bersyarat (PKPB)	10 Mei 2020
F.	Perutusan Khas: Perintah Kawalan Pergerakan Pemulihan (PKPP)	07 Jun 2020
G.	Perutusan Khas: Perkembangan Terkini Perintah Kawalan Pergerakan Pemulihan (PKPP)	20 Julai 2020
H.	Perutusan Khas: Pelanjutan Perintah Kawalan Pergerakan Pemulihan (PKPP)	28 Ogos 2020

Teori Kajian

Dalam kajian ini, teori analisis wacana kritis oleh Fairclough (2013) akan digunakan. Teori ini menyarankan tiga aspek analisis, iaitu analisis tekstual, amalan wacana dan amalan sosial. Namun begitu, untuk memenuhi keperluan kajian, analisis kajian ini hanya tertumpu pada dimensi tekstual dan amalan sosial. Fairclough menjelaskan bahawa analisis dalam dimensi tekstual melibatkan empat komponen, iaitu leksikal, nahu, tautan dan struktur teks. Namun begitu, dimensi tekstual yang difokuskan dalam kajian ini ialah komponen nahu yang tertumpu pada modaliti. Seterusnya, huraian modaliti ini akan dikaitkan dengan dimensi amalan sosial, iaitu hubungan sosial yang dibina antara pewacana dengan rakyatnya. Penelitian sebegini selaras dengan tujuan analisis modaliti yang ingin menentukan hubungan sosial yang dibina dalam sesebuah teks (Fairclough, 2013).

Secara umumnya, modaliti merujuk kepelbagaian sikap ataupun perasaan pewacana. Sikap ini boleh digambarkan melalui penyataan yang diujarkan dengan

modaliti tertentu (Liaw & Abdullah Hassan, 1994). Idris Aman (2006) pula menyatakan bahawa modaliti merupakan ciri teks yang mampu menunjukkan sikap pewacana terhadap ujarannya, seperti berkeyakinan, berhati-hati, pasti, berbelah bahagi, tentatif dan arif. Modaliti juga berupaya memberikan makna tambahan, seperti permintaan komitmen, tanggungjawab, keinginan, kebenaran dan pengesahan. Kenyataan ini selaras dengan pandangan Hodge dan Kress (1993) yang menegaskan bahawa modaliti mampu menggambarkan pengetahuan ataupun darjah kuasa sesuatu ujaran. Menurut Asmah Omar (2015) pula, modaliti berperanan untuk memberikan ciri 'suasana' kepada perbuatan ataupun keadaan yang dirujuk oleh kata kerja leksikal.

Misalnya, modaliti 'hendak' dan 'mahu' merujuk maksud kehendak. Modaliti 'boleh' dan 'dapat' merujuk maksud keupayaan dan keizinan. Modaliti 'mesti', 'wajib' dan 'harus' merujuk kemestian. Modaliti 'perlu' merujuk keperluan. Modaliti 'mungkin' merujuk kemungkinan dan modaliti 'enggan' merujuk perasaan tidak

mahu. Secara jelas, analisis wacana kritis bertujuan untuk meneliti penggunaan modaliti daripada fungsi interpersonal dan fungsi ideasionalnya. Fungsi-fungsi ini menggambarkan hubungan sosial yang ingin diwujudkan oleh pewacana dengan khalayak sasarannya. Proses ini dimulakan dengan penelitian jenis-jenis modaliti yang paling kerap dimanfaatkan dalam wacana (Fairclough, 2013). Kemudian, penggunaan modaliti yang kerap mampu mengenal pasti sikap pewacana. Sikap yang dikenal pasti ini kemudiannya dapat mentafsir bentuk hubungan sosial yang wujud, seperti formal, jarak, rapat ataupun sederhana.

Tatacara Analisis

Tatacara analisis dalam kajian ini meliputi empat tahap. Tahap pertama ialah peringkat memilih data. Tahap ini bertujuan untuk mengenal pasti sama ada data yang dipilih sesuai dengan fokus kajian ataupun tidak. Tahap kedua ialah peringkat pengekodan. Pengekodan ialah sistem rujukan yang diberikan kepada data kajian (Leavy, 2014). Pengekodan mampu memudahkan penelitian dan pembacaan (Muhammad Faizul Abd Hamid & Harishon Radzi, 2020). Sehubungan dengan itu, semua teks perutusan ditandakan dengan sistem rujukan yang mengandungi maklumat seperti jenis teks perutusan, perenggan, ayat dan modaliti yang digunakan. Contoh pengekodan adalah seperti berikut:

D.13. (a) Saya diberikan taklimat oleh pihak Majlis Keselamatan Negara bahawa peningkatan kes-

kes positif COVID-19 dijangka meningkat lebih tinggi sekiranya kita tidak melakukan apa-apa. (b) Jumlahnya **mungkin** meningkat berkali-kali ganda lagi seperti yang berlaku di beberapa buah negara lain.

Berdasarkan pengekodan tersebut, label D merujuk Teks Perutusan Khas: Perintah Kawalan Pergerakan (PKP) Fasa 2 (rujuk Jadual 1). Nombor 13 pula merujuk perenggan ke-13. Abjad yang berada dalam kurungan seperti (a) dan (b) merujuk ayat pertama dan kedua. Perkataan yang ditebalkan merujuk jenis modaliti yang digunakan. Tahap ketiga ialah penulisan hasil dapatan berdasarkan objektif kajian. Tahap terakhir merupakan usaha merumuskan dapatan kajian dan menyatakan impak kajian kepada bidang linguistik dan masyarakat.

ANALISIS DAN PERBINCANGAN

Berdasarkan analisis terhadap lapan teks perutusan khas PKP, sebanyak 249 kali modaliti digunakan dan melibatkan sepuluh jenis modaliti, iaitu modaliti 'boleh', 'dapat', 'nak', 'mesti', 'mungkin', 'perlu', 'ingin', 'hendak', 'pasti' dan 'mahu'. Modaliti 'boleh' menunjukkan penggunaan yang paling tinggi, iaitu sebanyak 64 kali (25.7%), diikuti modaliti 'dapat' sebanyak 35 kali (14.06%), seterusnya modaliti 'nak' sebanyak 28 kali (11.24%), modaliti 'mesti' sebanyak 28 kali (11.24%), modaliti 'mungkin' sebanyak 27 kali (10.84%), modaliti 'perlu' sebanyak 20 kali

(8.03%), modaliti ‘ingin’ sebanyak 16 kali (6.43%), modaliti ‘pasti’ sebanyak 15 kali (6.03%), modaliti ‘hendak’ sebanyak 10 kali (4.02%), dan modaliti ‘mahu’ sebanyak 6 kali (2.41%). Berdasarkan penggunaannya pula, modaliti yang dimanfaatkan oleh pewacana terbahagi kepada dua jenis fungsi, iaitu sebagai modaliti informatif dan perintah. Modaliti informatif digunakan sebanyak 188 kali (75.50%), iaitu lebih tinggi berbanding dengan penggunaan modaliti perintah, iaitu sebanyak 61 kali (24.50%). Penggunaan modaliti informatif dan perintah menunjukkan bahawa teks perutusan khas PKP bukan sahaja bertujuan untuk menyampaikan maklumat yang berkaitan dengan wabak COVID-19 dan pelaksanaan beberapa fasa PKP kepada rakyat, malah menghendaki rakyat melakukan sesuatu tindakan susulan. Jumlah keseluruhan jenis modaliti dan fungsi modaliti dalam teks perutusan khas PKP boleh dilihat dalam Jadual 2 di bawah.

Penggunaan modaliti informatif dalam teks perutusan khas PKP melibatkan sembilan

daripada sepuluh jenis modaliti, iaitu modaliti ‘boleh’, ‘dapat’, ‘nak’, ‘mungkin’, ‘perlu’, ‘ingin’, ‘hendak’, ‘pasti’ dan ‘mahu’. Modaliti ‘boleh’ menunjukkan penggunaan yang paling tinggi, iaitu sebanyak 48 kali (25.53%), diikuti modaliti ‘dapat’ sebanyak 35 kali (18.62%), seterusnya modaliti ‘nak’ sebanyak 28 kali (14.89%), modaliti ‘mungkin’ sebanyak 27 kali (14.36%), modaliti ‘ingin’ sebanyak 16 kali (8.51%), modaliti ‘pasti’ sebanyak 15 kali (7.98%), modaliti ‘perlu’ sebanyak 8 kali (4.26%), modaliti ‘mahu’ sebanyak 6 kali (3.19%) dan modaliti ‘hendak’ sebanyak 5 kali (2.66%). Penggunaan modaliti perintah pula melibatkan empat daripada sepuluh jenis modaliti, iaitu modaliti ‘mesti’, ‘perlu’, ‘boleh’ dan ‘hendak’. Modaliti ‘mesti’ menunjukkan penggunaan modaliti perintah yang tertinggi, iaitu sebanyak 28 kali (45.90%), diikuti modaliti ‘boleh’ sebanyak 16 kali (26.23%), modaliti ‘perlu’ sebanyak 12 kali (19.67%) dan modaliti ‘hendak’ sebanyak 5 kali (8.20%).

Jadual 2

Jumlah keseluruhan jenis modaliti dan fungsi modaliti dalam teks perutusan khas PKP

Jenis modaliti	Modaliti informatif	Modaliti perintah	Jumlah keseluruhan
Boleh	48 (25.53%)	16 (26.23%)	64 (25.7%)
Dapat	35 (18.62%)	0 (00.00%)	35 (14.06%)
Nak	28 (14.89%)	0 (00.00%)	28 (11.24%)
Mesti	0 (00.00%)	28 (45.90%)	28 (11.24%)
Mungkin	27 (14.36%)	0 (00.00%)	27 (10.84%)
Perlu	8 (4.26%)	12 (19.67%)	20 (8.03%)
Ingin	16 (8.51%)	0 (00.00%)	16 (6.43%)
Pasti	15 (7.98%)	0 (00.00%)	15 (6.03%)
Hendak	5 (2.66%)	5 (8.20%)	10 (4.02%)
Mahu	6 (3.19%)	0 (00.00%)	6 (2.41%)
Jumlah keseluruhan	188 (75.50%)	61 (24.50%)	249 (100%)

Modaliti Informatif

Modaliti informatif yang digunakan oleh pewacana merupakan ujaran yang menerangkan sesuatu perkara ataupun keadaan yang berkaitan dengan wabak COVID-19. Bukan itu sahaja, modaliti informatif juga digunakan oleh pewacana untuk memberikan maklumat tentang pelaksanaan PKP. Kenyataan ini selari dengan dakwaan Halliday (1994) yang menegaskan bahawa modaliti informatif ialah ujaran yang bercirikan makluman. Dalam erti kata lain, modaliti informatif tidak mempunyai sebarang unsur tanggungjawab seperti yang wujud dalam modaliti perintah (Idris Aman, 2006). Huraian lanjut bagi setiap jenis modaliti informatif adalah seperti di bawah.

Modaliti Informatif ‘boleh’. Modaliti informatif ‘boleh’ merupakan modaliti informatif yang paling banyak digunakan oleh pewacana, iaitu sebanyak 48 kali. Modaliti informatif ‘boleh’ merujuk pernyataan informasi yang membawa maksud keupayaan dan keizinan (Asmah Omar, 2015). Berdasarkan teks perutusan khas yang dikaji, penggunaan modaliti informatif ‘boleh’ telah menggambarkan keizinan yang diberikan oleh pewacana kepada rakyat terhadap sesuatu tindakan ataupun perkara. Contoh penggunaan modaliti informatif ‘boleh’ boleh dilihat menerusi dua contoh petikan berikut:

1. A.20. (a) Jika saudara-saudari mempunyai sebarang pertanyaan berhubung Perintah

Kawalan Pergerakan, saudara-saudari **boleh** menghubungi Pusat Pengurusan Operasi Negara di talian hotline 03-88882010 bermula jam 12 tengah hari esok.

2. H.11. (a) Walaupun PKPP dilanjutkan, saya yakin kehidupan saudara-saudari tidak akan terjejas kerana aktiviti harian **boleh** dilaksanakan seperti biasa dengan pembudayaan norma baharu dan pematuhan kepada SOP yang ditetapkan.

Pada data 1, kata modaliti “**boleh**” dalam ayat (a) menunjukkan keizinan yang diberikan oleh pewacana kepada rakyat untuk menghubungi Pusat Pengurusan Operasi Negara. Kebenaran ini diberikan kepada rakyat sekiranya rakyat mempunyai sebarang soalan tentang PKP yang dilaksanakan. Pada data 2 pula, pewacana menyatakan bahawa beliau yakin akan keupayaan rakyat. Secara jelas, kata modaliti “**boleh**” yang digunakan dalam ayat (a) menunjukkan keupayaan rakyat melakukan aktiviti harian walaupun PKPP dilanjutkan. Namun begitu, aktiviti yang dilakukan perlu mengikut garis panduan keselamatan yang telah ditetapkan oleh kerajaan.

Modaliti Informatif ‘dapat’. Modaliti informatif ‘dapat’ merupakan modaliti informatif yang kedua tertinggi digunakan oleh pewacana, iaitu sebanyak 35 kali. Modaliti informatif ‘dapat’ merujuk

penyataan informasi yang membawa maksud keupayaan (Tan, 1992). Tambah beliau lagi, modaliti informatif ‘dapat’ dan ‘boleh’ mempunyai makna yang sama, iaitu makna keupayaan. Sehubungan dengan itu, modaliti informatif ‘dapat’ dan ‘boleh’ menunjukkan penggunaan yang tinggi kerana modaliti ini dimanfaatkan secara bersilih ganti untuk menggambarkan maksud keupayaan. Namun begitu, Asmah Omar (2015) menyatakan bahawa modaliti informatif ‘dapat’ mempunyai makna keupayaan dan hanya boleh menggantikan modaliti informatif ‘boleh’ yang merujuk maksud keupayaan. Berdasarkan teks perutusan yang dikaji, penggunaan modaliti informatif ‘dapat’ menggambarkan keupayaan sesuatu tindakan atau perkara. Contoh penggunaan modaliti informatif ‘dapat’ boleh dilihat menerusi dua contoh petikan berikut:

3. B.16. (a) Usaha-usaha akan terus dibuat untuk mencegah penularan COVID-19 sehinggalah kita benar-benar **dapat** membendung wabak ini dengan cara memutuskan rantaian jangkitan sepenuhnya.
4. E.36. (b) Hasil pelaksanaan PKPB hanya **dapat** dilihat dalam tempoh beberapa minggu lagi.

Pada data 3, pewacana memanfaatkan kata modaliti “**dapat**” dalam ayat (a) untuk menyatakan informasi yang merujuk keupayaan membendung penularan wabak COVID-19 melalui usaha-usaha yang berterusan. Secara jelas, pewacana

menyatakan bahawa usaha-usaha mencegah dan mengawal akan terus dibuat sehingga penularan wabak COVID-19 boleh dibendung sepenuhnya. Pada data 4 pula, kata modaliti “**dapat**” dalam ayat (b) digunakan untuk menyatakan informasi yang merujuk keupayaan melihat hasil pelaksanaan PKPB. Berdasarkan ayat berkenaan, pewacana menyatakan, dalam beberapa minggu lagi, pelaksanaan PKPB baru dapat dilihat dan dikaji.

Modaliti Informatif ‘nak’. Modaliti informatif ‘nak’ merupakan modaliti informatif yang ketiga tertinggi digunakan oleh pewacana, iaitu sebanyak 28 kali. Modaliti informatif ‘nak’ merupakan modaliti bersifat informasi yang merujuk kehendak. Modaliti informatif ‘nak’ yang digunakan oleh pewacana dalam teks perutusan bertujuan untuk merujuk kemahuannya melakukan sesuatu perkara atau tindakan. Modaliti informatif ‘nak’, ‘mahu’, ‘hendak’ dan ‘ingin’ mempunyai makna yang sama (Haslina Haroon & Hasuria Che Omar, 2017). Modaliti informatif ‘nak’ juga merupakan singkatan kepada ‘hendak’ (Asmah Omar, 2015). Namun begitu, modaliti informatif ‘nak’ sering digunakan dalam bahasa percakapan seharian. Berdasarkan kenyataan ini, pengkaji berpendapat bahawa pewacana memanfaatkan lebih banyak modaliti informatif ‘nak’ berbanding dengan modaliti informatif ‘hendak’ untuk mewujudkan suasana penyampaian maklumat yang santai. Contoh penggunaan modaliti informatif ‘nak’ boleh dilihat menerusi dua contoh petikan berikut:

5. C.2. (a) Di awal ucapan saya ini, saya **nak** menzahirkan rasa terima kasih dan penghargaan saya kepada anda semua sebagai rakyat Malaysia. (b) Anda telah berjaya menjalankan peranan masing-masing dalam membendung wabak ini.
6. E.35. (a) Tetapi, saya **nak** nasihatkan supaya kita jangan alpa. (b) Kita masih di peringkat awal pelaksanaan PKPB. (c) Dengan jumlah orang ramai yang mula keluar dari rumah untuk bekerja semakin meningkat, risiko jangkitan juga turut meningkat.

Pada data 5, pewacana memanfaatkan kata modaliti “**nak**” dalam ayat (a) untuk menyatakan kehendaknya melahirkan rasa syukur dan penghargaan atas kejayaan rakyat menjalankan tanggungjawab masing-masing dalam usaha mengekang penularan wabak COVID-19. Pada data 6 pula, kata modaliti “**nak**” menunjukkan kemahuan pewacana menasihati rakyatnya. Berdasarkan ayat berkenaan, pewacana menasihati rakyatnya agar tidak lupa akan peringkat awal pelaksanaan PKPB. Kelonggaran keluar dari rumah untuk bekerja yang diberikan sewaktu pelaksanaan ini memberikan ruang kepada peningkatan risiko jangkitan.

Modaliti Informatif ‘mungkin’. Modaliti informatif ‘mungkin’ pula digunakan oleh pewacana sebanyak 27 kali. Modaliti

informatif ‘mungkin’ digunakan untuk merujuk keadaan, perbuatan atau sifat yang tidak pernah terjadi sehingga saat keadaan itu berlaku (Imran Ho-Abdullah, 1993). Modaliti ‘mungkin’ juga boleh membawa maksud wujudnya harapan ataupun bayangan tentang akan terjadinya sesuatu kejadian. Berdasarkan penelitian, modaliti informasi ‘mungkin’ yang digunakan oleh pewacana dalam teks perutusan merujuk maksud kebarangkalian terjadinya sesuatu keadaan atau tindakan. Contoh penggunaan modaliti informatif ‘mungkin’ boleh dilihat menerusi dua contoh petikan berikut:

7. B.13. (a) Saya diberikan taklimat oleh pihak Majlis Keselamatan Negara bahawa peningkatan kes-kes positif COVID-19 dijangka meningkat lebih tinggi sekiranya kita tidak melakukan apa-apa. (b) Jumlahnya **mungkin** meningkat berkali-kali ganda lagi seperti yang berlaku di beberapa buah negara lain.
8. D.32. (a) Saya ingin memberikan sedikit bayangan. (b) Walaupun PKP **mungkin** akan dilanjutkan lagi selepas ini, syarikat-syarikat dalam sektor-sektor tertentu akan dibenarkan beroperasi, tertakluk kepada pematuhan SOP yang ketat.

Pada data 7, pewacana memanfaatkan kata modaliti “**mungkin**” dalam ayat (b)

untuk menyatakan jangkakan terhadap jumlah jangkitan wabak COVID-19. Secara jelas, pewacana menjangkakan bahawa jumlah jangkitan wabak COVID-19 akan meningkat dengan mendadakunya seperti negara-negara lain. Pada data 8 pula, kata modaliti “**mungkin**” dalam ayat (b) menunjukkan keadaan yang bakal berlaku walaupun PKP dilanjutkan. Berdasarkan ayat berkenaan, pewacana menyatakan bahawa kebenaran operasi akan diberikan kepada syarikat dalam sektor-sektor tertentu sekiranya PKP dilanjutkan lagi. Namun begitu, syarikat-syarikat yang dibenarkan beroperasi ini perlu mematuhi garis panduan keselamatan yang ketat.

Modaliti Informatif ‘ingin’. Selain penggunaan modaliti informatif ‘nak’ bagi merujuk maksud kemahuan, pewacana turut menggunakan modaliti informatif ‘ingin’ dalam teks perutusan bagi merujuk maksud yang sama. Namun begitu, modaliti informatif ‘ingin’ hanya digunakan oleh pewacana sebanyak 16 kali. Contoh penggunaan modaliti informatif ‘ingin’ boleh dilihat menerusi dua contoh petikan berikut:

9. D.25. (a) Sehubungan itu, saya **ingin** mengumumkan Perintah Kawalan Pergerakan yang dijangka berakhir pada 28 April 2020 akan dilanjutkan untuk tempoh dua minggu lagi, iaitu sehingga 12 Mei 2020.
10. F.20. (b) Namun, saya **ingin** mengingatkan sekiranya berlaku peningkatan mendadak

kes positif COVID-19 dalam tempoh ini, kerajaan tidak akan teragak-agak untuk melaksanakan Perintah Kawalan Pergerakan Diperketatkan atau PKPD di kawasan atau lokaliti yang berkenaan.

Pada data 9, pewacana memanfaatkan kata modaliti “**ingin**” dalam ayat (a) untuk menyatakan kehendaknya mengumumkan pelanjutan PKP. Menurut pewacana, penamatan PKP pada 28 April 2020 akan dilanjutkan hingga 12 Mei 2020. Pada data 10, kata modaliti “**ingin**” dalam ayat (b) menunjukkan kemahuan pewacana mengingatkan rakyatnya tentang pelaksanaan PKPD. Berdasarkan ayat berkenaan, jika terdapat peningkatan kes jangkitan wabak COVID-19 di kawasan atau lokaliti tertentu, kerajaan tidak teragak-agak untuk melaksanakan PKPD di kawasan atau lokaliti tersebut.

Modaliti Informatif ‘pasti’. Selanjutnya, pewacana turut memanfaatkan modaliti informatif ‘pasti’ dalam teks perutusan khasnya, iaitu sebanyak 15 kali. Modaliti informatif ‘pasti’ merujuk pernyataan informasi yang membawa maksud kepastian (Asmah Omar, 2015). Berdasarkan teks perutusan yang dikaji, penggunaan modaliti informatif ‘pasti’ telah menggambarkan kepastian yang dirasakan oleh pewacana terhadap keadaan yang dihadapi rakyat. Contoh penggunaan modaliti informatif ‘pasti’ boleh dilihat menerusi dua contoh petikan berikut:

11. A.13. (a) Kita telah melihat peningkatan wabak COVID-19 secara mendadak daripada puluhan orang yang dijangkiti virus ini kepada ribuan orang dalam masa yang singkat di beberapa buah negara lain. (b) Sudah **pasti** saudara-saudari tidak mahu keadaan yang sama berlaku di negara kita.
12. B.6. (a) Saya tahu, bukan mudah untuk saudara-saudari duduk diam-diam di rumah untuk satu tempoh masa yang agak lama. (b) **Pastinya** banyak cabaran yang saudara-saudari hadapi pada waktu ini. (c) Tiba-tiba gaya hidup kita berubah dengan sekelip mata.

Pada data 11, kata modaliti “**pasti**” dalam ayat (a) menunjukkan informasi yang berkaitan dengan kepastian pewacana terhadap kemahuan rakyatnya. Dalam ayat tersebut, pewacana menyatakan bahawa rakyatnya pasti tidak mahu peningkatan jangkitan virus yang berlaku di negara-negara lain terjadi di negara ini. Pada data 12 pula, kata modaliti “**pastinya**” dalam ayat (b) menunjukkan informasi yang berkaitan dengan kepastian pewacana terhadap keadaan yang dihadapi oleh rakyat. Berdasarkan ayat tersebut, pewacana menyatakan bahawa beliau pasti terdapat banyak cabaran yang dihadapi rakyat sewaktu pandemik ini, terutamanya perubahan gaya hidup.

Modaliti Informatif ‘perlu’. Seterusnya, pewacana turut memanfaatkan modaliti informatif ‘perlu’ dalam teks perutusan khasnya, iaitu sebanyak 8 kali. Modaliti informatif ‘perlu’ berfungsi untuk menyampaikan informasi yang bersifat keperluan (Imran Ho-Abdullah, 1993). Berdasarkan teks perutusan yang dikaji, penggunaan modaliti informatif ‘perlu’ menunjukkan maklumat yang bercirikan keperluan terhadap sesuatu keadaan ataupun tindakan. Contoh penggunaan modaliti informatif ‘perlu’ boleh dilihat menerusi dua contoh petikan berikut:

13. C.28. (a) Banyak lagi contoh-contoh lain yang **tak perlu** saya sebut kerana saya fikir saudara-saudari faham maksud kebiasaan baharu yang mesti kita amalkan dalam menjalani kehidupan seharian untuk tempoh yang mendatang.
14. E.37. (a) Oleh sebab itu, saya nak merayu kepada saudara-saudari semua supaya patuhilah SOP yang ditetapkan oleh kerajaan. (b) Amalkan penjarakan sosial. (c) Pakai penutup mulut dan hidung. (d) Sentiasa basuh tangan atau gunakan *hand sanitizer*. (e) Selain itu, keluar rumah hanya jika **perlu** sahaja.

Pada data 13, pewacana memanfaatkan kata modaliti “**perlu**” dan kata nafi “**tak**” dalam ayat (a) untuk menyatakan informasi tentang ketidakperluan pewacana

memberikan contoh-contoh maksud kebiasaan baharu kepada rakyat kerana beliau fikir rakyat faham akan maksud tersebut. Kata nafi 'tak' digunakan untuk menidakkan sesuatu perkara (Nasroniazam Abu Bakar Sidiq, 2016). Kata nafi 'tak' juga merupakan singkatan kepada kata nafi 'tidak'. Pada data 14 pula, kata modaliti "perlu" dalam ayat (d) menunjukkan informasi keperluan tentang pematuhan garis panduan yang ditetapkan oleh kerajaan. Berdasarkan ayat berkenaan, pewacana merayu kepada rakyat agar keluar rumah sekiranya mempunyai keperluan penting sahaja.

Modaliti Informatif 'mahu'. Selain penggunaan modaliti informatif 'nak' dan 'ingin' bagi merujuk maksud kemahuan, pewacana turut menggunakan modaliti informatif 'mahu' dalam teks perutusan untuk merujuk maksud yang sama. Namun begitu, penggunaan modaliti informatif 'mahu' kurang digunakan kerana hanya digunakan sebanyak 6 kali. Contoh penggunaan modaliti informatif 'mahu' boleh dilihat menerusi dua contoh petikan berikut:

15. F.18. (c) Saya tahu saudara-saudari juga **mahu** menjalani kehidupan seperti biasa. (d) Saudara-saudari ingin keluar bekerja, berniaga, beriadah, melancong bersama keluarga dan melakukan aktiviti-aktiviti lain dalam kehidupan seharian.
16. G.15. (b) Saya pasti saudara saudari **tidak mahu** kerajaan

kembali melaksanakan *lock down* sekiranya kes-kes COVID-19 meningkat dengan mendadak. (c) Saya juga berdoa dan berharap agar kita tidak perlu sampai ke tahap itu.

Penggunaan kata modaliti "mahu" dalam ayat (b) pada data 15 menunjukkan informasi tentang kemahuan rakyat yang ingin menjalani kehidupan seperti biasa sebelum kewujudan wabak COVID-19. Selain data 15, data 16 menunjukkan gandingan kata nafi "tidak" dan kata modaliti "mahu" dalam ayat (b) untuk menyatakan informasi tentang rakyatnya yang tidak mahu pelaksanaan semula perintah kawalan jika kes COVID-19 bertambah. Jika diteliti, kata modaliti 'mahu' banyak digunakan untuk menyatakan informasi tentang kemahuan rakyat berbanding dengan kata modaliti 'nak', 'ingin' dan 'hendak' yang digunakan untuk menyatakan informasi tentang kemahuan pewacana.

Modaliti Informatif 'hendak'. Selain penggunaan modaliti informatif 'nak', 'ingin' dan 'mahu' bagi merujuk maksud kemahuan, pewacana turut menggunakan modaliti informatif 'hendak' dalam teks perutusan untuk merujuk maksud yang sama. Namun begitu, modaliti informatif 'hendak' kurang digunakan kerana hanya digunakan sebanyak 5 kali. Contoh penggunaan modaliti informatif 'hendak' boleh dilihat menerusi dua contoh petikan berikut:

17. B.10.(a) Saya **hendak** menyebut di awal-awal ini bahawa

keadaan berkemungkinan menjadi lebih sukar. COVID-19 adalah sejenis wabak yang tidak pernah kita hadapi sebelum ini.

18. G.27. (a) Saya juga **hendak** mengingatkan saudara-saudari yang pulang dari luar negara supaya menjalani kuarantin di rumah selama 14 hari dengan penuh berdisiplin.

Pada data 17, pewacana memanfaatkan kata modaliti “**hendak**” dalam ayat (a) untuk menyatakan kemahuannya memberitahu rakyat tentang keadaan yang barangkali menjadi lebih sukar. Hal ini dikatakan demikian kerana wabak COVID-19 tidak pernah wujud sebelum ini. Pada data 18 pula, pewacana menggunakan kata modaliti “**hendak**” dalam ayat (a) untuk menyatakan informasi tentang kemahuannya memberikan peringatan kepada rakyat. Berdasarkan ayat tersebut, pewacana hendak mengingatkan individu yang pulang dari luar negara untuk mengasingkan diri di rumah selama 14 hari.

Penggunaan modaliti informatif dalam teks perutusan khas PKP berperanan sebagai ujaran bercirikan maklumat. Modaliti informatif dijana untuk menyalurkan maklumat yang berlingkungan makna keupayaan, keizinan, kemungkinan, keperluan, keinginan dan kepastian. Dalam erti kata lain, modaliti informatif tidak meraih sebarang unsur tanggungjawab daripada rakyat. Walaupun modaliti informatif hanya berfungsi untuk menyampaikan maklumat, kehadirannya mampu menggambarkan

hubungan sosial antara pewacana dengan rakyat. Penggunaan modaliti informatif dalam teks perutusan menunjukkan pewacana berusaha membina hubungan sosial yang santai dengan rakyatnya. Hubungan yang santai ini dapat dilihat menerusi kekerapan modaliti informatif yang lebih banyak berbanding dengan modaliti perintah. Keadaan inilah yang disebut oleh Idris Aman (2006) sebagai hubungan yang ‘relaks’.

Walaupun penggunaan modaliti informatif berfungsi untuk menyampaikan maklumat, penggunaannya dapat menggambarkan kuasa pewacana. Hal ini dikatakan demikian kerana bahasa sering dijadikan alat untuk menunjukkan wujudnya kuasa oleh pemakai bahasa (Kamsiah Abdullah, 2014). Penggunaan kuasa bahasa begini dapat dilihat dalam lingkungan kuasa pemerintah, kuasa undang-undang dan seumpamanya. Menurut Weber (1978), seperti yang dirujuk oleh Best (2001), semakin besar kuasa pemakai bahasa, semakin besar kuasa bahasa yang dapat digunakan terhadap mereka yang tiada kuasa. Misalnya, penggunaan modaliti informatif ‘boleh’ yang tinggi dalam teks perutusan telah menggambarkan kekuasaan pewacana sebagai Perdana Menteri Malaysia yang membuat persetujuan tentang perkara yang melibatkan kepentingan pihak-pihak tertentu sewaktu berhadapan dengan ancaman wabak COVID-19. Dalam hal ini, kuasa bahasa seseorang dapat ‘menghalalkan’ sesuatu yang tidak halal di sisi undang-undang atau sebaliknya (Bourdieu, 1980).

Modaliti Perintah

Modaliti perintah merupakan ujaran yang mengusulkan sesuatu permintaan. Permintaan ini harus disambut dengan tindakan susulan oleh khalayak sasaran. Kenyataan ini selaras dengan pendapat Halliday dan Matthiessen (2013) yang menegaskan bahawa “*Modality represents the speaker’s angle either on the validity of the assertion or on its right and wrongs of the proposal...*” (p. 624). Secara jelas, modaliti perintah memerlukan sasaran melakukan sesuatu tindakan (Rohaidah Haron, 2016). Lazimnya, modaliti perintah mempunyai fitur obligasi (+ obligasi) atau komitmen yang diminta dalam ayat (Idris Aman, 2006). Sehubungan dengan itu, modaliti perintah mampu menggesa rakyat merealisasikan permintaan pewacana untuk membendung penularan wabak COVID-19 dengan penuh komited sebagai tanggungjawab sosial. Huraian lanjut bagi setiap jenis modaliti perintah adalah seperti di bawah.

Modaliti Perintah ‘mesti’. Modaliti perintah ‘mesti’ merupakan modaliti perintah yang paling banyak digunakan oleh pewacana, iaitu sebanyak 28 kali. Modaliti perintah ‘mesti’ merujuk kemestian sesuatu perintah (Asmah Omar, 2015). Menurut Imran Ho-Abdullah (1993), modaliti perintah ‘mesti’ mempunyai maksud yang sama dengan modaliti perintah ‘perlu’. Namun begitu, modaliti perintah ‘mesti’ mempunyai tahap tanggungjawab yang lebih tinggi berbanding dengan modaliti perintah ‘perlu’. Berdasarkan teks perutusan khas yang dikaji, penggunaan modaliti

perintah ‘mesti’ merujuk kemestian arahan yang perlu dilaksanakan oleh rakyat untuk mengekang wabak ini. Contoh penggunaan modaliti perintah ‘mesti’ boleh dilihat menerusi dua contoh petikan berikut:

19. A.18. (a) Saya merayu kepada saudara-saudari agar sentiasa mematuhi Perintah Kawalan Pergerakan ini. (b) Ini adalah tanggungjawab kita bersama yang **mesti** kita laksanakan sebagai rakyat yang prihatin terhadap keluarga kita, masyarakat kita dan negara kita.
20. F.13. (d) Penjarakan sosial, penggunaan pelitup muka di tempat awam dan membasuh tangan menggunakan sabun atau *hand sanitizer* merupakan kebiasaan baharu yang **mesti** diamalkan.

Pada data 19, pewacana memanfaatkan kata modaliti “**mesti**” dalam ayat (a) untuk menunjukkan permintaan yang ditanggungjawabkan kepada rakyat dan dirinya supaya sentiasa mematuhi segala peraturan yang ditetapkan semasa pelaksanaan PKP. Pada data 20 pula, pewacana menggunakan kata modaliti “**mesti**” dalam ayat (a) untuk memberikan arahan tentang kebiasaan baharu yang mesti diamalkan oleh rakyat. Berdasarkan ayat tersebut, pewacana mengarah rakyatnya untuk mengamalkan kebiasaan baharu ketika berhadapan dengan wabak

COVID-19. Kebiasaan baharu ini meliputi penjarakan fizikal, penggunaan pelitup muka, penggunaan pensanitasi tangan dan seumpamanya.

Modaliti Perintah ‘boleh’. Di samping itu, pewacana turut memanfaatkan modaliti perintah ‘boleh’ sebanyak 16 kali. Walau bagaimanapun, modaliti ‘boleh’ yang digunakan sebagai maksud perintah tidak berdiri sendiri, tetapi digandingkan dengan kata nafi ‘tidak’ untuk mewujudkan maksud perintah yang bersifat larangan terhadap sesuatu tindakan ataupun perkara yang diminta. Selain berfungsi menidakkan atau menafikan sesuatu, kata nafi ‘tidak’ juga digunakan untuk menunjukkan maksud larangan (Nasroniazam Abu Bakar Sidiq, 2016). Contoh penggunaan modaliti perintah ‘boleh’ boleh dilihat menerusi dua contoh petikan berikut:

21. A.14. (a) Kita **tidak boleh** menunggu lebih lama sehingga keadaan menjadi lebih meruncing. (b) Tindakan drastik perlu diambil dalam kadar segera untuk menyekat penularan wabak ini dengan cara menghadkan pergerakan orang ramai.
22. C.13. (a) Namun begitu, kita **tidak boleh** mengambil mudah situasi yang sedang berlaku. (b) Penularan wabak ini masih di peringkat pertengahan dan memerlukan tindakan

pencegahan serta kawalan yang berterusan.

Pada data 21, pewacana memanfaatkan gandingan kata nafi “**tidak**” dan kata modaliti “**boleh**” dalam ayat (a) untuk melarang diri dan rakyatnya menunggu lama sehingga penularan wabak COVID-19 menjadi lebih teruk. Sehubungan dengan itu, tindakan yang cepat perlu diambil untuk mengekang penularan wabak ini. Pada data 22 pula, pewacana menggunakan kata nafi “**tidak**” dan kata modaliti “**mesti**” dalam ayat (a) untuk menegah diri dan rakyatnya mengambil mudah penularan wabak COVID-19 yang sedang berlaku. Hal ini dikatakan demikian kerana kewujudan wabak ini masih baharu dan langkah pencegahan yang berterusan diperlukan untuk mengawal penyebarannya.

Modaliti Perintah ‘perlu’. Selain menggunakan modaliti perintah ‘mesti’ bagi merujuk maksud kemestian, pewacana turut memanfaatkan modaliti perintah ‘perlu’ untuk merujuk maksud yang sama. Walau bagaimanapun, Rohaidah Haron (2016) menegaskan bahawa tahap tanggungjawab yang dibawa oleh modaliti perintah ‘perlu’ lebih bersifat tolak ansur ataupun mesra. Modaliti perintah ‘perlu’ telah digunakan oleh pewacana sebanyak 12 kali. Contoh penggunaan modaliti perintah ‘perlu’ boleh dilihat menerusi dua contoh petikan berikut:

23. D.24. (a) Berdasarkan data-data yang dibentangkan kepada saya oleh Kementerian Kesihatan,

saya dapati bahawa usaha-usaha untuk membendung wabak COVID-19 masih **perlu** diteruskan.

24. E.18. (a) Walaupun kita telah mencapai banyak perkembangan positif dalam usaha memerangi wabak COVID-19, usaha kita masih belum berjaya sepenuhnya. (b) Langkah-langkah masih **perlu** diambil untuk memerangi wabak ini.

Pada data 23, kata modaliti “**perlu**” dalam ayat (a) digunakan oleh pewacana untuk memberikan arahan kepada rakyat tentang langkah-langkah mengekang penularan wabak COVID-19 yang perlu sentiasa diambil. Langkah-langkah yang berterusan ini dibuat berdasarkan bukti-bukti yang dikeluarkan oleh Kementerian Kesihatan Malaysia (KKM). Pada data 24 pula, kata modaliti “**perlu**” dalam ayat (b) menunjukkan arahan pewacana tentang tindakan-tindakan yang masih perlu dilaksanakan oleh rakyat untuk menghentikan wabak ini. Menurut pewacana, walaupun negara telah merekodkan jangkitan COVID-19 yang semakin menurun, wabak COVID-19 masih belum dihentikan sepenuhnya.

Modaliti Perintah ‘hendak’. Selain berfungsi sebagai modaliti yang bersifat informatif, modaliti ‘hendak’ juga merujuk maksud perintah. Dalam teks perutusan khas yang dikaji, pewacana telah memanfaatkan

modaliti perintah ‘hendak’ sebanyak 5 kali. Modaliti ‘hendak’ yang bersifat informatif dan perintah dapat dibezakan melalui pelaku yang berperanan sebagai subjek dalam ayat. Contohnya, modaliti informatif ‘hendak’ lazimnya hadir selepas subjek yang diwakili oleh kata ganti nama diri pertama. Modaliti perintah ‘hendak’ pula hadir selepas subjek yang diwakili oleh kata ganti nama diri kedua atau ketiga. Contoh penggunaan modaliti perintah ‘hendak’ boleh dilihat menerusi dua contoh petikan berikut:

25. A . 3 6 . (a) U n t u k menguatkuasakan larangan ini, semua rumah ibadat dan premis perniagaan **hendaklah** ditutup, kecuali pasaraya, pasar awam, kedai runcit dan kedai serbaneka yang menjual barangan keperluan harian.

26. E.24. (a) Setiap keluarga **hendaklah** mematuhi SOP kesihatan seperti penjarakan sosial, pemakaian penutup mulut dan hidung, dan amalan kebersihan sendiri seperti penggunaan *hand sanitizer* sepanjang sambutan perayaan ini.

Pada data 25, pewacana memanfaatkan kata modaliti “**hendaklah**” dalam ayat (a) untuk memberikan arahan kepada semua rumah ibadat dan premis perniagaan supaya menghentikan operasi sewaktu pelaksanaan PKP. Namun begitu, kedai atau pasar raya yang menjual barangan keperluan harian

dibenarkan beroperasi. Pada data 26 pula, pewacana menggunakan kata modaliti “**hendaklah**” dalam ayat (a) untuk mengarah rakyatnya mematuhi garis panduan kesihatan yang telah ditetapkan sewaktu musim perayaan seperti menjaga jarak sosial, memakai pelitup muka dan mengamalkan amalan kebersihan sendiri. Jika diteliti, kata modaliti ‘hendak’ yang digunakan oleh pewacana banyak digandingkan dengan partikel ‘-lah’ untuk mewujudkan kelembutan apabila memberikan arahan. Menurut Abdullah Hassan (2005), partikel ‘-lah’ bertujuan untuk melahirkan suasana yang lebih sopan.

Penggunaan modaliti perintah dalam teks perutusan khas PKP merupakan salah satu cara pewacana meminta rakyatnya melakukan sesuatu tindakan ketika berhadapan dengan ancaman wabak COVID-19. Hal ini dikatakan demikian kerana modaliti perintah mempunyai kaitan dengan kuasa (Rohaidah Haron, 2016). Lazimnya, individu yang berkuasa seperti pemimpin sahaja yang dapat mempengaruhi orang lain untuk mencapai beberapa matlamat dengan menggerakkan pelibatan mereka (Hogan & Kaiser, 2005). Sehubungan dengan itu, modaliti perintah yang digunakan oleh pewacana dapat dikaitkan dengan kedudukan dan peranan beliau sebagai Perdana Menteri. Modaliti perintah yang ditemukan dalam teks perutusan menunjukkan bahawa pewacana ialah Perdana Menteri yang mampu menggerakkan sesuatu tindakan untuk menyelesaikan penularan wabak COVID-19.

Sehubungan dengan itu, penggunaan modaliti perintah dalam teks perutusan mampu menjelaskan dan menilai hubungan sosial antara pewacana dengan rakyat. Ketika berhadapan dengan ancaman wabak COVID-19, pewacana telah mengambil pendekatan yang tegas apabila mengusulkan permintaan. Keadaan ini boleh dibuktikan melalui penggunaan modaliti perintah ‘mesti’ yang lebih dominan berbanding dengan modaliti perintah lain. Penggunaan modaliti ‘mesti’ yang kerap menunjukkan bahawa pewacana bijak membina hubungan sosial dengan rakyat ketika berhadapan dengan suasana genting. Hal ini dikatakan demikian kerana kebanyakan permintaan yang diusulkan kepada rakyat bernada serius dan sesuai dengan situasi yang sedang dialami. Maksudnya, arahan membendung penularan wabak COVID-19 mempunyai unsur tanggungjawab yang tinggi dan perlu dilaksanakan oleh rakyat tanpa gagal.

KESIMPULAN

Pemanfaatan modaliti yang berbeza-beza telah menunjukkan kepelbagaian sikap ataupun perasaan pewacana terhadap sesuatu perkara yang diutarakan. Modaliti yang dimanfaatkan bukan sahaja menggambarkan fungsi ideasional semata-mata, tetapi turut mempamerkan fungsi interpersonal antara pewacana dengan rakyat. Menurut Fairclough (2003), “*the main reason for analysing modality is to identify the interpersonal function built in text*” (p. 166). Sehubungan dengan itu, modaliti merupakan salah satu alat yang penting

untuk menilai dan menjelaskan hubungan sosial, terutamanya hubungan yang dibina oleh pewacana dengan rakyatnya ketika berhadapan dengan ancaman wabak COVID-19. Pengenalpastian modaliti telah membantu proses pemahaman yang tersirat di sebalik teks perutusan khas PKP. Maksudnya, teks yang disampaikan bukan sahaja mengandungi kata-kata secara dasar, malah teks ini juga mempunyai maksud tertentu menerusi penggunaan modaliti tertentu. Kenyataan ini bertepatan dengan dakwaan Fairclough (2013) yang menegaskan bahawa kebanyakan tulisan ataupun lisan tidak dibentuk sewenang-wenangnya, tetapi sarat dengan makna tertentu. Secara jelas, kajian ini bukan sahaja telah meneliti aspek bahasa semata-mata, malah secara tidak langsung, kajian ini juga telah mendalami cara bahasa disusun atur oleh kerajaan ketika negara berhadapan dengan pandemik. Keadaan ini membuktikan bahawa penelitian ilmu linguistik bukan sahaja mampu meningkatkan peranan bidang bahasa, tetapi turut bermanfaat dalam kehidupan manusia.

PENGHARGAAN

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Cultural Translation, Hybrid Identity, and Third Space in Jhumpa Lahiri's *Interpreter of Maladies*

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ABSTRACT

The phenomena of migration, displacement, and social integration have greatly impacted discourses on the interpretation of cultural translation, which is widely perceived as an ongoing reciprocal process of exchange, integration, and transformation. Drawing upon Homi K. Bhabha's theoretical notions, such as liminality, hybridity, and third space, the present study explores the poetics and politics of cultural translation in Jhumpa Lahiri's *Interpreter of Maladies* (1999). More specifically, we examine the multiple ways in which the existing similarities and differences between dominant and marginal cultures influence diasporic individuals and communities and the various ways the migrants respond to their conflicting conditions in the diaspora. A close reading of the three stories of "Mrs. Sen's," "When Mr. Pirzada Came to Dine" and "The Third and Final Continent" reveals that while the liminal situation has the potential to become a site of conflicts in the lives of the migrant subjects, it germinates a condition of hybridity that embraces the diversity of cultures and their blurry borders with one another in the third space. This pattern is perfectly demonstrated through the three characters of Mrs. Sen, Lilia's mother, and Mala. Their heterogeneous experiences of integration underscore the idea that when two disparate cultural realities confront one another, the female characters welcome a new space where they succeed in negotiating and translating their cultures.

Keywords: Culture, diaspora, Homi Bhabha, identity, Jhumpa Lahiri

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INTRODUCTION

The cultural turn in Translation Studies over the last decades of the twentieth century has not only problematized the literal translation of a text from one language

to another but also greatly impacted the field of literary studies (Baker & Saldanha, 2019). On the one hand, it has underlined the cultural significance in the translation of literary texts, presenting the process of translation as “a transaction not between two languages, or somewhat a mechanical sounding act of linguistic ‘substitution,’ but rather a more complex negotiation between two cultures” (Trivedi, 2007, p. 3). On the other hand, it has inspired literary scholars like Stuart Hall, Paul Gilroy, and Homi K. Bhabha to expand the idea by exploring the broader phenomena of cultural translation and transformation. Bhabha’s (1994, 1990) interpretations of cultural translation revolve around a heterogeneous discourse brought about by displacement or migration. He believes that cultural translation does not lend itself to the confines of a particular culture or a particularly radical definition. Rather, it “denies the essentialism of a prior given original or original culture” and, in so doing, emphasizes that “all forms of culture are continuously in the process of hybridity” in what he labels “the third space” (Rutherford, 1990, p. 211). The translation is thus interpreted as an ongoing reciprocal process of exchange, integration, and transformation. For Bhabha, translation is a cultural and non-linear process of negotiation that occurs in what he calls a “third space,” that is, “a meeting place where conflicts are acted out and the margins of collaborations explored” (Wolf, 2008, p. 13). This transgressive space reinforces the idea of cultural relativism and problematizes

the traditional perception of culture and cultural identity as fixed and formulaic entities.

This article explores fictional stories on diasporic life and transnational experiences to study the various demonstrations of the concept of cultural translation as a process interlinked with displacement, migration, and transformation. The South Asian American writer Jhumpa Lahiri recommends herself for the study as she has been publicly and critically acknowledged as one of the foremost contemporary writers on experiences of migration, transculturation, and cross-cultural translation (Asl & Abdullah, 2017; Cardozo, 2012; Neutill, 2012). When facing the opportunities and challenges of international displacement, Lahiri’s fictional characters constantly translate the relationship between their national and diasporic cultures to create a meaningful space of their own and circumvent alienation, loneliness, and in-betweenness (Alvarez, 2021; Asl, 2018, 2022). In this article, we draw upon Bhabha’s theories to argue that Lahiri’s diasporic sensibility situates her in an in-between, liminal position that enables her to form a multi-faceted presentation of South Asian diasporic life. To pursue this argument, we focus on her Pulitzer-Prize-winning collection of short stories, *Interpreter of Maladies* (1999), to examine how interpretation, translation, and negotiation serve as remedies for maladies of diasporic subjects when facing the new culture of the host-land.

LITERATURE REVIEW

Jhumpa Lahiri as an Interpreter of Diasporic Experience

Born in London and raised in Rhode Island, USA, by Bengali parents, Jhumpa Lahiri's literary writings revolve around the diasporic experiences of South Asian individuals and communities in the United States of America. Lahiri's fiction shows that migrants do not always easily assimilate into the dominant culture but are, at times, situated in a contentious cultural encounter (Apap, 2016; Asl et al., 2018; Dhingra & Cheung, 2012). Published in 1999, Lahiri's debut collection of short stories, *Interpreter of Maladies*, marks the beginning of a new era in studying the South Asian diaspora and the complexities of cultural translation and interpretation. The work is created out of Lahiri's personal and diverse experiences of transnational mobility. Her identity and wealth equally inform it of knowledge and experience as a bicultural and bilingual person. In an interview, Lahiri emphasizes that her fictional works have served as the only place she manages to connect and make sense of national and diasporic cultural realities (Asl et al., 2016). Her life experiences involve a cultural ambiguity and complexity that seem to be quite overwhelming. She explains that numerous terms have been used to refer to this ambiguous in-between identity and the literature born out of it:

Both my book and myself were immediately and copiously categorized. Take, for instance, the

various ways I am described: as an American author, as an Indian-American author, as a British-born author, as an Anglo-Indian author, as an NRI (non-resident Indian) author, as an ABCD author (ABCD stands for American born confused "desi"—"desi" meaning Indian—and is an acronym coined by Indian nationals to describe culturally challenged second-generation Indians raised in the U.S.). According to Indian academics, I've written something known as "Diaspora fiction"; in the U.S., it's "immigrant fiction." (Lahiri, 2002, p. 113)

Having lived on the border of two cultures, Lahiri knows how to incorporate a traditional way of life with a modern one in a land that is not considered home. Numerous literary scholars praised her unique stance as a second-generation writer and her concise writing style (Chandorkar, 2017; Chatterjee, 2016; Lutzoni, 2017; Nair, 2015; Shankar, 2009). Koshy (2011), for example, believes that her stories "zoom in on small happenings and circumscribed settings, maintaining a spatial focus on the home and a formal and thematic focus on the slight, inconspicuous, and fleeting events and affects in daily life" (p. 597). Throughout the collection, Lahiri depicts different aspects of diasporic life and cross-cultural communication.

Over the past two decades, the poetics and politics of cultural translation in Lahiri's fiction have garnered global attention

(Diamond, 2021; Field, 2004; Lewis, 2001). In an interview, Lahiri acknowledges that nearly all of her “characters are translators, insofar as they must make sense of the foreign to survive” (Neutill, 2012, p. 119). While a few scholars have problematized the credibility of representation in her stories, casting doubt on the knowledge and intentions of the Western-based diasporic writer (Alfonso-Forero, 2011; Asl et al., 2020; Moynihan, 2012), many others have acclaimed Lahiri as a native informant (Bandyopadhyay, 2009; Brada-Williams, 2004; Caesar, 2005; Rastogi, 2015). Judith Caesar (2005), for example, argues that because Lahiri narrates the American world through the eyes of the other rather than through the familiar American eyes, her narration of diasporic spaces must be noted as the “subversions of old clichés” (p. 52). However, for the most part, the existing body of criticism on Lahiri’s creative writings mainly applauds her multi-dimensional portrayal of cultural differences and their positive impact on the lives of diasporic individuals and communities.

Theoretical Background

The development of diasporic cultures as a result of transnational migrations has undermined essentialist ideologies by contesting the homogenizing perceptions of identity and culture as fixed and static entities (Anuar & Asl, 2022; Kuortti & Nyman, 2007; Pourgharib et al., 2022). In his seminal book *The Location of Culture* (1994), Homi K. Bhabha argues for the productive nature of this cultural encounter,

asserting that the confrontation of the two cultures of the homeland and the host country entails the formation of a hybrid identity that constantly deconstructs and reconstructs itself. Hybridity, or the creation of new transcultural forms within the contact zone, is thus an empowering condition because it allows the diasporic subject to question, contest, and subvert the normalized boundaries. Hybrid identity is forged in what Bhabha calls the third space of enunciation or the liminal space between the dominant culture and the marginalized culture of the diasporic minority. He expounds on the interrelation of the two concepts of hybridity and liminality through the stairwell image. According to him,

The stairwell as liminal space, in-between the designations of identity, becomes the process of symbolic interaction, the connective tissue that constructs the difference between upper and lower, black and white. The hither and thither of the stairwell, the temporal movement and passage that it allows, prevents identities at either end of it from settling into primordial polarities. This interstitial passage between fixed identifications opens up the possibility of a cultural hybridity that entertains difference without an assumed or imposed hierarchy. (Bhabha, 1994, p. 4)

Hybridity thus takes place in “in-between” sites of diversity and opposition where the culture of the mainstream and

that of the periphery come together in a single place. The “in-between” territory is the interstitial “third space” that disrupts the established “policy of polarity,” or “Us” and “Them” divisions (Bhabha, 1994, pp. 36-39). In other words, the third space works as a catalyst that allows cultural differences to appear not as polarity or diversity but as hybridity (Singh et al., 1996). Hybridity occurs in the process of negotiation and translation, which produces a new identity different from either culture. The new form also indicates a hidden affinity between the dominant and the diasporic. Hence, hybridity uses alterity to disarm the prevailing culture and helps the minority with a chance to stand. What is involved in the construction of hybrid identity is an “estranging sense of the relocation of the home and the world—the unhomeliness—that is the condition of extraterritorial and cross-cultural initiations” (Bhabha, 1994, p. 13).

According to Bhabha (1990), displaced individuals are agents of decolonization because they can push away the previously held fixed notions and stride beyond the segregating borders imposed by colonial and imperial ideologies. One of the major characteristics of their life is the everyday experience of otherness, which can be understood as one's separation from their culture and encounter with an unknown culture in relation to which they are viewed as different or peculiar. This experience refers to the “dual loyalty that migrants, immigrants, exiles, and refugees have to geography” of their connections to the space they presently dwell in and their

continuing entanglement with what they had “back home” (Agnew, 2005, p. 195). For Bhabha (1994), the diasporic space is highly conducive to forming counter-narratives. Elsewhere, he explains that “the boundary that secures the cohesive limits of the Western nation may imperceptibly turn into a contentious internal liminality providing a place from which to speak both of, and as, the minority, the exilic, the marginal and the emergent” (Bhabha, 1990, p. 300). The third space provides the diasporic, the marginal, and the unvoiced with an alternative space to reform their identities to be heard. The liminal in the diasporic experience is thus the “in-between space” which “provide[s] the terrain for elaborating strategies of selfhood—singular or communal—that initiate[s] new signs of identity, and innovative sites of collaboration, and contestation, in the act of defining the idea of society itself” (p. 2).

METHODOLOGY AND MATERIAL

Research Objectives

Drawing upon Homi K. Bhabha's theoretical notions, such as liminality, hybridity, and third space, the present study examines the poetics and politics of cultural translation as represented in literary writings of diasporic and transnational experiences. Specifically, the focus will be on the multiple ways in which the existing similarities and differences between dominant and marginal cultures influence diasporic individuals and communities, as well as on the various ways migrants respond to their conflicting conditions.

Methods

The present study conducted a textual analysis of selected short stories. As a theoretical approach, the study engaged in Diasporic Studies, an offshoot of Cultural Studies. Homi K. Bhabha's critical and theoretical concepts are more specifically employed to analyze selected stories of diasporic and transnational experiences. In this relation, the notions of liminality, cultural difference/cultural diversity, hybridity, and third space were used as critical lenses to investigate the selected stories. Building on this theoretical framework, close reading is conducted to analyze selected short stories, pointed out below.

Materials

Jhumpa Lahiri's Pulitzer Prize-winning collection of short stories, *Interpreter of Maladies* (1999), is the primary source of data collection and analysis in the present study. For the specific purposes of the study, three short stories: "Mrs. Sen's," "When Mr. Pirzada Came to Dine," and "The Third and Final Continent," were selected to be analyzed as they present the existing challenges and opportunities of living in a liminal situation. The collection was of paramount relevance to this study, as the stories depicted how the first- and second-generation diasporic characters from South Asia responded to cultural confrontations in their new home in the United States of America. Most characters portrayed in the collection, to borrow from Chambers (1993), "live at the intersections of histories and memories, experiencing

both their preliminary dispersal and their subsequent translation into new, more extensive arrangements along emerging routes" (p. 6).

RESULTS AND DISCUSSION

Cultural Difference, Hybrid Identity, and Third Space in *Interpreter of Maladies*

"Mrs. Sen's" relates the story of a thirty-year-old Indian-Bengali housewife who moves from Calcutta to the United States as her husband is offered a position as a university professor in the States. As a subject of unwanted displacement, Mrs. Sen soon begins to experience a sense of loss and alienation in the host land. Bored in her new house in America, she decides to babysit an eleven-year-old American boy called Eliot. The notions of cultural difference, cross-cultural communication and translation, and individual transformation are presented through the interaction between the two characters and the comparisons Eliot makes between his mother and babysitter.

Throughout the story, the concept of home has a special meaning since it is strongly linked to Mrs. Sen's sense of identity, nationhood, and belonging. Mrs. Sen holds a fixed and radical perspective toward the concepts of home and gender. For this reason, she constantly tries to adhere to the traditions of her society and culture. Her reluctance to integrate into American culture is partly rooted in the established gender expectations and norms within the Indian culture, in which women are considered the guardians and symbols

of Indian tradition and spirituality (Anuar & Asl, 2021, 2022; Asl, 2022; Keikhosrokiani & Asl, 2022; Lamb, 2009). Identity, as Bhabha (1994) observes, "is never a priori, nor a finished product; it is only ever the problematic process of access to an image of totality" (p. 51). Nevertheless, Mrs. Sen has learned to totalize her whole identity with the ideal image of womanhood. Her desire to fulfill this role as a perfect Indian woman hides the trauma of being an outcast. Mrs. Sen's struggle to battle un-belongingness, alienation, and exile is in line with what Bhabha considers the distressing quality of living in in-between spaces. Through this cross of space and time, "complex figures of difference and identity, past and present, inside and outside, inclusion and exclusion" are produced where "a sense of disorientation, a disturbance of direction, in the 'beyond'" takes place (p. 2).

Bhabha believes that the state of liminality can be a point of destruction because the borders of identity are essentially blurred and ambiguous, and the diasporic self finds it difficult to cling to a meaningful center. Accordingly, Mrs. Sen fails to embrace the changing orders and insists on that "image of totality," falling into an in-betweenness. She dwells in the boundaries of the old and the new social forces and between the present reality and the past. Since she desires to reach that image of totality, she cannot transcend her sense of exile. Mrs. Sen feels the possibility of assimilation threatens her traditional cultural identity, so she ensures to openly state her cultural peculiarities by wearing "a

shimmering white sari pattered with orange paisleys" (Lahiri, 1999, p. 112). In contrast, Eliot's mother wears revealing clothes. The difference is so obvious that Eliot notices the ethnic and cultural disparities in many ways. To Eliot, Mrs. Sen retains a sort of femininity, a domestic quality that his mother seems to lack (Ruia, 2012). As Mrs. Sen strongly adheres to her cultural tradition, the eleven-year-old Eliot perceives her as a foreigner who is completely different from many people around him.

Bhabha (1990, 1994) distinguishes cultural diversity from cultural difference. The former refers to categorizing cultures, while the latter denotes the common ground among cultures. According to him, the ambivalent space helps to bring forth the similarities beneath the cultural difference and subvert the exoticism of cultural diversity. As he distinguishes between cultural difference and cultural diversity, the differences between Mrs. Sen and Eliot's mother initially seem to Eliot as comparative and categorized expressions of cultural diversity. However, he later discovers that all the disparities between his mother and Mrs. Sen stem from cultural differences. In other words, Eliot understands how stereotype works in Mrs. Sen and his mother's relationship. Since Eliot also knows their similarities, he ignores the existing fixity in their relations. He rejects the otherness that his mother sees in Mrs. Sen. Eliot's understanding goes beyond the appearances of cultural diversity, and he discovers a common sense of alienation, isolation, loneliness, miscommunication,

and misunderstanding in the people around him. In this manner, Lahiri deconstructs the stereotypical relation of her characters—Mrs. Sen with her surroundings in the host-land, whereas Eliot’s mother with a foreigner, Mrs. Sen—through a young boy who seems to be a more trustworthy narrator for the story. While cultural, racial, and gender stereotypes are fixed for the adults in the story, Eliot observes the existing non-stereotypical elements in human relationships. Through Eliot, the story reinforces the illusion of cultural difference and the reality of sameness.

In contrast to the leading female character of “Mrs. Sen’s” who fails to create a sense of home in the United States because of her disinterest in negotiating with the new world around her, the narrator’s mother in “When Mr. Pirzada Came to Dine” is depicted as a hybrid woman who has managed to maintain the familial and friendship bond in a foreign soil. The story is about a Pakistani Bengali scholar named Mr. Pirzada who has left his family to continue his academic studies in America. While he is in the U.S., a historical partition war takes place in Pakistan, which leads to the formation of a new country called Bangladesh (Bhattacharya, 2022). Mr. Pirzada befriends an Indian family who invites him to their house every night to watch the Indian national news about the ongoing turmoil in his new place. The story is narrated through the eyes of Lilia, the ten-year-old daughter of the host family, who observes Mr. Pirzada’s difference from the American people. As the narrative ties,

the story of three countries of Pakistan, Bangladesh and America together, national borders and cultural diversity become salient elements throughout the story.

It is through their interaction with Mr. Pirzada that Lilia and her mother’s hybrid identity is portrayed and celebrated. Lahiri narrates the story through the language of Lilia to apply a new translation to the concept of border and reveal its arbitrariness, non-fixity, and fluidity. It is perfectly demonstrated when Lilia is perplexed by the Hindu-Muslim conflicts, explaining that the war

made no sense to me. Mr. Pirzada and my parents spoke the same language, laughed at the same jokes, looked more or less the same. They ate pickled mangoes with their meals, ate rice every night for supper with their hands. Like my parents, Mr. Pirzada took off his shoes before entering a room, chewed fennel seeds after meals as a digestive, drank no alcohol, for dessert dipped austere biscuits into successive cups of tea. Nevertheless, my father insisted that I understand the difference, and he led me to a map of the world taped to the wall over his desk. (Lahiri, 1999, pp. 27-28)

In this excerpt, the father seeks to teach Lilia that national borders and cultural diversity exist in this world and that such boundaries and classifications are liable to change over time. He believes that if Lilia

learns the history and geography of only one nation, that knowledge will be a fixed and absolute understanding of that nation. However, if she becomes familiar with various historical and geographical events, she will know that the existing borderlines and segregations are all manufactured knowledge and arbitrary. However, while Lilia does not have enough knowledge of the world, its history and geography, she has the opportunity to learn from her parents' life that people can live together. At the same time, they are labeled as having different nationalities, races, gender, and culture. Therefore, as the second generation of Indian immigrants in America, Lilia is continuously involved in the process of translation in her coming to age story. Rastogi (2015) emphasizes that Lilia "likes learning about both Indian and American cultures and deems it a privilege in comparison to American youngsters who only know about their own culture" (p. 3). More than having this privilege over the American children (and also all those who are only confined to their native culture), Lilia states that according to her mother, Lilia "would never have to eat rationed food, or obey curfews, or watch riots from [her] rooftop, or hide neighbors in water tanks to prevent them from being shot" as her mother and father had (Lahiri, 1999, p. 29).

Lilia's mother has not lost her sense of belonging, and she is well aware of the importance of Indian cultural traditions, such as practices related to food and dinner parties. Nonetheless, she is also aware that limiting her life within the boundaries

of Indianness makes her a docile female subject who will feel isolated and forsaken eventually (Swarup & Devi, 2012). Indeed, the established paradigm(s) about women and domesticity are contested and disrupted through culinary acts. As Ranaweera (2022) argues, investing in the often devalued domestic chores with agency, subjectivity, and power presents female figures associated with domesticity as empowered individuals. Therefore, Lilia's mother welcomes cultural differences and creates a new space for herself and her family to benefit from new opportunities and possibilities. This hybrid lifestyle of Lilia's family and how it is open to cultural differences is eventually heeded and acknowledged by Mr. Pirzada.

"The Third and Final Continent" is the closing story of *Interpreter of Maladies*. It is, in fact, the only story of the collection that depicts mostly the optimistic dimension of migration and cross-cultural communication. The story's narrator is an unnamed Indian man who moves to London in 1964 from his native country to continue his studies at the London School of Economics. He has lived in an apartment with some other expatriate Bengalis in London for five years. Later, when he turns 36, the narrator leaves London to move, this time to Boston, since he finds a new job at Dewey Library at MIT. Soon, he gets married to an Indian girl from Calcutta, who moves to Boston to join him. While he is moving to the U.S., he makes himself familiar with the new country through a guidebook, which warns about the less friendly atmosphere of America in comparison to England and notes some of

America's historical achievements, such as the landing of two American astronauts on the moon for the first time.

The narrator stays at YMCA in Central Square for the first few weeks to save more money so that he can rent an apartment when his wife arrives. Later, he moves into an old house with a room for rent. The property owner is an old lady, Mrs. Croft, who gradually becomes interested in the narrator's company. The way the narrator hands in the rent instead of putting it on the piano surprises Mrs. Croft, who considers it a gentlemanly gesture and very kind of her tenant. Though they enjoy a nice relationship, he decides to move to a new bigger house before his wife's arrival. After several weeks, the narrator's wife arrives. He meets her at the airport and talks in his native language for the first time in America. His wife is called Mala, a 27-year-old-girl who knows almost all of the domestic practices that an ideal Indian wife should. Since they seem like strangers to each other during the first days of their acquaintance, the narrator asks her wife for a walk. However, he becomes regretful as he finds out that Mala wears her Indian dress. Incidentally, when they walk in the streets, the narrator realizes they are near Mrs. Croft's house. During their meeting with Mrs. Croft, a turning point takes place for the narrator. He feels uncomfortable and uneasy that Mrs. Croft finds him walking in the streets of Boston with his wife wearing a Sari. Mrs. Croft asks Mala to stand up so that she can scrutinize Mala from head to toe. Meanwhile, the narrator sympathizes with Mala in his heart, saying to himself that

“like me, Mala had traveled far from home, not knowing where she was going, or what she would find, for no reason other than to be my wife” (Lahiri, 1999, p. 213). To his surprise, Mrs. Croft responds positively to Mala; “She is a perfect lady!” (p. 213). The acceptance from the old, cynical American woman was a hopeful sign for the narrator. In response to this declaration, he says,

Now it was I who laughed. I did so quietly, and Mrs. Croft did not hear me. But Mala had heard, and, for the first time, we looked at each other and smiled. I like to think of that moment in Mrs. Croft's parlor as the moment when the distance between Mala and me began to lessen. Although we were not yet fully in love, I like to think of the months that followed as a honeymoon of sorts. Together we explored the city and met other Bengalis, some of whom are still friends today. (p. 214)

One month later, the narrator tells the reader, “Mrs. Croft's was the first death I mourned in America” (pp. 214-215).

The ‘Splendid’ moment of Mrs. Croft's acceptance and admiration of an Indian girl relates to Bhabha's notion of third space. In fact, while the narrator of the story is waiting for a ‘degrading’ remark from Mrs. Croft, he suddenly finds himself in a new splendid space somewhere beyond. With reference to Bhabha's ideas of negotiation, hybridity, and the dual nature of cultures, Hallward (2001) suggests that once binaries such as

“West-East” and “Us-Them” are shattered, cultures tend to clash and then combine. According to him, culture is not a source of natural conflict; rather, it is discriminatory practices that make conflict a product of differentiation. Cultures thus develop if they avoid bias and degradation. Likewise, Hoogvelt (1997) celebrates hybridity and takes it as a form of “superior cultural intelligence” (p. 158). This intelligence takes root in a land where two cultures gather to negotiate differences, a land which Bhabha digs to locate cultural interactions. In the story's concluding section, the reader learns that the narrator and his wife are still enjoying their life together in a country that was once foreign to them. In addition, they now have a son who studies at Harvard. Reviewing his life, the narrator concludes,

While the astronauts, heroes forever, spent mere hours on the moon, I have remained in this new world for nearly thirty years. I know that my achievement is quite ordinary. I am not the only man to seek his fortune far from home, and certainly I am not the first. Still, there are times I am bewildered by each mile I have traveled, each meal I have eaten, each person I have known, each room in which I have slept. As ordinary as it all appears, there are times when it is beyond my imagination. (Lahiri, 1999, p. 216)

“The Third and Final Continent” is the story of a diasporic subject who experiences

life on three continents of Asia, Europe, and America. He always translates these three different lifestyles and is continually involved in the process of hybridity. He does not simply transfer from one geographical place to another but carries those features he has learned from each culture he has experienced to have a better life in the new space. Gilroy likens cultural fusion to a “ship,” which symbolizes the “trajectory between departure and destination” (Kraidy, 2006, p. 58). In other words, as the hybrid culture moves, it carries characteristics from both parties.

The young couple in “The Third and Final Continent” contrasts the experience of the protagonist of “Mrs. Sen's” at least in two aspects. Firstly, the story's narrator does not feel alienated and lost in the foreign country; secondly, Mala, who is homesick for her family, begins to negotiate with the new world she has landed in. In this sense, Mala is a restless and persistent cultural translator who attempts to contact her surroundings and communicate with the society that seems at the beginning strange and alien. In light of Bhabha's hybridity theory, the narrator and his wife in “The Third and Final Continent” appear to be a true example of hybrid diasporic subjects whose identity positions are constructed through an ongoing translation.

CONCLUSION

In this study, we examined the poetics and politics of cross-cultural communication and translation among the South Asian diaspora as represented in Jhumpa Lahiri's short

story collection *Interpreter of Maladies*. For this purpose, we used Homi K. Bhabha's theories of liminality, hybridity, and third space to study the impact of disparities between dominant and marginal cultures on diasporic characters everyday life experiences and identity constructs. We argued that the collection presents diasporic conditions not merely as a physical and geographical phenomenon but as a constant process of negotiating and translating cultures. Within this process, as our findings revealed, while some stories like "Mrs. Sen's" depict diasporic subjects' failure to assimilate into the mainstream, other stories like "When Mr. Pirzada Came to Dine," and "The Third and Final Continent" narrate stories of successful migrants who accept the dynamic and challenging aspects of diasporic life. A close reading of the three stories suggests that individuals of different cultural backgrounds living in an in-between situation are always required to interpret their inner world and that of the outside. Otherwise, they are doomed to failure and a life of alienation and isolation. In line with Bhabha's theory of hybridity, the three stories underscore the idea that once two disparate neighboring entities confront one another, they should welcome a new space where they can learn to negotiate and translate their cultures. Here, translation is used to refer to a cultural phenomenon beyond its linguistic implication.

According to Bhabha, this cultural phenomenon refers to a constant negotiation between the diasporic and the mainstream culture to better understand each other,

differentiate, and find commonalities and similarities. Translation and negotiation are the underlying themes of the three stories. The selected narratives present hybridity as a requirement for diasporic life because cultural translation is a prerequisite for human relationships in different places, times, and conditions. The stories underline that the maladies of migrants need to be interpreted to be remedied and cured. It is perfectly demonstrated through the happy life of Mala in "The Third and Final Continent" and Lilia's mother in "When Mr. Pirzada Came to Dine" on American soil. The analysis of the three characters of Mrs. Sen, Lilia's mother, and Mala also suggests that while the liminal situation has the potential to become a site of conflicts in the lives of the migrant subjects, it germinates the notion of hybridity that embraces the diversity of cultures and their blurry borders with one another in the third space. In doing so, as we conclude, Lahiri's *Interpreter of Maladies* depicts culture and identity as floating entities that are always in the process of change, growth, and evolution.

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Acoustic Analysis of Voicing Contrast in Malay Word-Initial Plosives Produced by Mandarin-Speaking Children

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ABSTRACT

Voice Onset Time (VOT) is an acoustic measure widely used to measure the characteristics of plosives across various languages. This study investigates the acquisition of voicing contrast in Malay word-initial plosives produced by Mandarin-speaking children. Fifteen subjects between the ages of 3;00 to 7 and 11 were recruited. The children completed a picture-naming task, and the speech samples were audio-recorded and analyzed using PRAAT. Descriptive VOT values (ms) across ages were presented and compared to previous normative findings. Results revealed that children aged 3;00 produced only a short lag, while children aged 4;00 to 6;00 produced short lag-long lag contrast, which is not similar to the expected VOT pattern of Malay plosives. Additionally, with increasing age, children acquired adult-like VOT productions. The VOT distributions follow the developmental path proposed for languages with two-way contrasts. This finding is the first VOT data on Malay word-initial plosives by Mandarin-speaking children. Maturity of motor development and coordination, as well as cross-linguistic exposure, influenced productions. Thus, further studies examining cross-linguistic influence, particularly controlling for the duration of exposure to L2 in multilingual language acquisition with a larger sample size, are warranted to validate the findings from this study.

Keywords: Bilingual, Malay, Mandarin, plosives, voicing contrast, voice onset time

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INTRODUCTION

Malaysia is formed of three main ethnicities (Malay, Chinese, and Indian) and is a multilingual country. Malay is the national language, while Mandarin, Tamil, and other dialects are used in daily communication. Therefore, it is common for non-native speakers to use languages other than their

native language to communicate. For example, Malaysian Chinese speakers may use Mandarin-English-Malay language plus Chinese dialect/s in their daily communication (Lim & Lim, 2018). However, previous studies have shown that their mother tongues influence non-native speakers who use Malay. There have been key research on voicing contrasts in plosives by investigating voice onset time (VOT) in native speakers of the Malay language. Abdul Hamid (2016) studied the acquisition of VOT in Malay children aged 2 to 6, while Shahidi (2010) studied the acquisition of VOT by bilingual Malay English speakers. However, studies examining VOT in multilingual speakers in Malaysia are limited. Due to the scarcity of studies on Mandarin-speaking children and the Malay language, this study aimed to provide information on the acquisition of Malay word-initial plosives by Mandarin-speaking children from ages 3;00 to 7 and 11. Since children with hearing impairment, childhood apraxia of speech, and phonological disorder produce voicing errors in their speech (Park & Byeon, 2015; Umat et al., 2015), it is beneficial to investigate the developmental trend in acquiring voicing contrast by typically-developing children. Additionally, knowing the age of acquisition for voicing contrast could also benefit the teaching and learning of the pronunciation of Malay in schools (Shahidi et al., 2012). The present study investigates the VOT pattern of Malay word-initial plosives produced by Mandarin-speaking children. Additionally,

we hypothesized that as age increases, the VOT values approach adult-like (Kewley-Port & Preston, 1974; Macken & Barton, 1980; Shahidi et al., 2012; Yang, 2018; Yu et al., 2015). We also hypothesized that the voicing contrast between pre-voiced and short lag VOT in Malay word-initial plosives is acquired after age 3;00 (Abdul Hamid, 2016; Khattab, 2002).

LITERATURE REVIEW

Malay and Mandarin Plosives

Malay is a major language of the Austronesian language family and Western Malayo-Polynesian subgrouping. There are 27 consonants in Malay, including six VOICELESS plosives /p, t, k/, and VOICED plosives /b, d, g/. (Abdul Hamid, 2016; Shahidi, 2010). Malay plosives are found in initial, medial, and final word positions. According to Shahidi (2010), Malay VOICELESS plosives are always unaspirated, with no audible breath heard when the plosive is released. However, aspirated plosives are unique in Malay dialects from the Malaysian Peninsula's northern states. In contrast, Mandarin is one of the Sino-Tibetan languages. It is a tonal language with four contrastive tones. In comparison to Malay, there are six plosives in Mandarin: VOICELESS unaspirated /p, t, k/ and VOICELESS aspirated /p^h, t^h, k^h/ (Duanmu, 2007; Shimizu, 2011). Aspiration is the difference between the plosives, not voicing (Lin, 2007; Shimizu, 2011). Unlike Malay, Mandarin plosives only occur at the word-initial position (Ogasawara, 2011).

Voice Onset Time (VOT)

VOT is the duration between the articulator release of a stop and the voicing onset (Lisker & Abramson, 1964). VOT measures the timing of voicing in milliseconds (ms). According to Lisker and Abramson, VOT is useful in separating phonemes into VOICED and VOICELESS categories, regardless of the language studied. Lisker and Abramson's study (1964) categorized plosives into three ranges based on VOT values. A negative VOT value is obtained when the onset of vocal fold vibration or voicing has started before the release of a stop. It is also known as 'voice lead' or 'pre-voiced.' A zero VOT value is obtained when vocal fold vibration or voicing onset coincides with the plosive release. Zero VOT typically occurs in VOICELESS unaspirated plosives. If the voicing has started after the burst release, this results in 'voice lag,' a positive VOT value. All VOICELESS aspirated plosives have positive VOT. The amount of lag separates VOICELESS unaspirated ('short lag' 0– +30msec) from VOICELESS aspirated ('long lag' +30 – +100ms) plosives (Lisker & Abramson, 1964; Shimizu, 1989). Lisker and Abramson (1964) categorized 11 languages into three main categories, depending on the number of plosive categories in the language: (1) two-category languages included American-English, Cantonese, and Tamil; (2) three-category languages that included Korean and Thai; (3) four-category languages that included Hindi and Marathi.

Voicing Contrast of Plosives

The voicing contrast of plosives represents complex acoustic and articulatory coordination (Melo et al., 2015). Voicing contrast in plosives could be studied based on acoustic cues such as voice bar, voicing during the closure, closure duration, vowel duration, and VOT. However, VOT is a reliable acoustic cue for studying voicing contrast in word-initial plosives (Shahidi, 2010). Acquisition of voicing contrast in children has been extensively studied in various languages, such as English (Kewley-Port & Preston, 1974; Macken & Barton, 1980), Hindi (Davis, 1995; Shimizu, 1989), Thai (Shimizu, 1989) and Spanish (Macken & Barton, 1980). Monolingual children typically acquire voicing contrast between short and long lag VOT by age 2;00–2;06 (Kehoe et al., 2004; Kewley-Port & Preston, 1974; Macken & Barton, 1980). However, the contrast between pre-voiced and short lag VOT (e.g., in Spanish, French and Italian) is acquired only after age 3;00. It is due to the difficulty in producing lead voicing, especially for children in mastering its production (Macken & Barton, 1980).

According to Shahidi et al. (2012), the realization pattern for the word-initial voicing contrast in Malay plosives is short-leg for VOICELESS plosives and pre-voiced for VOICED plosives. Shahidi et al. (2016) investigated voicing contrast between VOICED and VOICELESS plosive in the initial position produced by Malay children aged 3;00–to 6 and 11. Findings revealed that children aged 3;00 produced

voicing lag for all plosives, suggesting they have still not acquired voicing contrast in Malay plosives. Children aged 4;00 and above produced pre-voiced for VOICED plosives. The finding showed they have acquired voicing contrast between VOICED and VOICELESS in Malay word-initial plosives. As age increased, the VOT values produced approached adult-like VOT. Abdul Hamid (2016) revealed that children aged 2;00 to 3;00 did not produce voicing lead for VOICED plosives (Table 1). The finding was in line with the findings from Shahidi et al. (2016). Except for velar plosive /g/, children aged 4;00 and above produced pre-voiced for VOICED plosives.

Based on the three-category model proposed by Lisker and Abramson (1964),

Mandarin unaspirated plosives /p, t, k/ occupied the short-leg regions, while Mandarin aspirated plosives /p^h, t^h, k^h/ occupied the long-lag regions. A study by Yang (2018) on the development of stop consonants in 3 to 6-year-old Mandarin-speaking children reported that Mandarin-speaking children at 3 years old had well-developed short-lag VOTs. However, Mandarin-speaking children aged 6 years had not fully established an adult-like long-lag VOT model. It indicates that long-lag VOTs in Mandarin-speaking children in this age range continue to develop. Table 2 shows the VOT Means of Mandarin plosives or Taiwanese Mandarin (TM) reported by past studies. Data from Li (2013) were reported separately for females and males.

Table 1
Mean VOT values for Malay word-initial plosives for children aged 2;00–6; 11

Mean VOT (ms)	2;00	3;00	4;00	5;00	6;00
/b/	11.0	10.7	-50.1	-59.4	-61.8
/d/	13.3	13.3	-38.0	-49.9	-53.6
/g/	18.1	20.3	9.8	12.0	12.0
/p/	8.3	7.9	6.7	8.5	7.9
/t/	14.2	13.2	14.3	13.1	14.1
/k/	23.6	24.7	30.4	29.6	34.0

Table 2
Mean VOT values (ms) for Mandarin word-initial plosives from different studies

	Liao (2005)	Chen et al. (2007) (TM)*	Chao & Chen (2008) (TM)*	Li (2013) (TM)*
/p/	17.9	13.9	14.0	
/t/	18.6	15.3	16.0	12.5 (F), 17.5 (M)
/k/	28.0	27.4	27.0	22.5 (F), 29.5 (M)
/p ^h /	75.4	77.8	82.0	
/t ^h /	71.4	75.5	81.0	93.3 (F), 77.9 (M)
/k ^h /	98.8	85.7	92.0	90.8 (F), 78.8 (M)

Note. *TM - Taiwanese Mandarin

VOT Development in Second Language (L2)

The Second Language Acquisition (SLA) literature provides strong evidence of the transfer of L1 VOT values in the acquisition of L2 VOT, especially at the lower levels of L2 proficiency (e.g., Flege, 1987; Flege & Hillenbrand, 1984). More advanced learners were reported to produce native-like VOT of the language and differentiate L1 and L2 concerning VOT (Flege, 1991). Shimizu (2011) reported that L1 stop categories were used in learning L2 stop categories due to the proximity of the VOT value. Several models, such as the speech learning model (SLM) and perceptual assimilation model (PAM), mentioned that the phonetic distance of plosives in L1 with L2 is the major cue in learning new L2 speech sounds. In order to produce L2 voicing categories, bilinguals try to find L1 sounds whose VOT values are close to their L2 counterparts. Studies showed that bilingual children produced different VOT than monolinguals in both languages (Khattab, 2002). Late L2 learners produced English /t/ with “compromise” VOT values that were intermediate VOT observed in Spanish and English monolinguals (Flege, 1991). Moreover, Balukas and Koops (2015) showed that VOT values for English produced by Spanish-English bilinguals were lower than the VOT production by native English speakers. It could be due to different VOT patterns in Spanish (pre-voiced vs. short lag) and English (short lag vs. long lag).

METHODOLOGY

Participant Characteristics

A total of 15 children residing in the Klang Valley area were recruited. Subjects were divided into 5 age groups: 3 years (hereafter denoted as 3;00) to 3 years and 11 months (hereafter denoted as 3;11), 4;00–4;11, 5;00–5;11, 6;00–6;11 and 7;00–7;11. The children were randomly selected based on the following criteria: (1) native speakers of Mandarin (2) children who are simultaneous/sequential bilinguals, able to understand and use Malay (3) no reported speech and language delay or other disabilities (4) obtained parents’ consent to participate in the study. Those who did not fulfill the inclusion criteria were excluded from the study. Participants were recruited by word of mouth and through kindergarten and tuition centers.

Material and Procedure

A digital audio recorder (Sony IC recorder ICD-SX850) was placed 10 cm from the participants during testing. A picture-naming task was used to elicit words with targeted word-initial plosives /p, b, t, d, k, g/ in Malay. The stimuli used were similar to Abdul Hamid (2016; Table 3). Cues were given if the child had difficulties naming the pictures. The cues were given in the following order: (1) Semantic cue; (2) False choice; (3) Delayed imitation. Direct imitation from the tester was not considered the target response.

Table 3
List of stimulus words

/p/	/t/	/k/
Pisang	Tandas	Kaki
Pokok	Tangan	Kakak
Pensel	Tiga	Kasut
/b/	/d/	/g/
Bola	Datuk	Gajah
Baju	Duduk	Gigi
Buku	Dua	Gula

Recordings and VOT Measurements

The recording took place in a quiet room in the child’s location. Speech samples of the children (3 subjects x 5 age groups x 6 consonants x 3 words x 3 repetitions = 810 tokens) were audio-recorded using a Sony IC recorder ICD-SX850 and transferred into a computer. The PRAAT software version 5.3.56 was used to analyze the samples collected. Speech samples were displayed as spectrograms in the software. VOT, the period between the release of the consonant stop and the onset of voicing, was measured. Burst release indicated stop release, and the first periodic waveform indicated the onset of voicing (Lisker & Abramson, 1964).

RESULTS

Reliability

The internal consistency was measured using Cronbach’s alpha (α) coefficient. Results revealed good internal consistency ($\alpha = .887$). Inter-rater reliability was obtained via the analysis of VOTs on 13% (n=108 tokens) of the audio samples independently by a clinical linguist trained in using the PRAAT software. The intra-class correlation

coefficient (ICC) of .992 indicated high inter-rater reliability.

VOT Values of Malay Word-Initial Plosives Produced by Mandarin-Speaking Children

Table 4 summarizes the VOT values of Malay word-initial plosives produced by Mandarin-speaking children compared to previous local findings. For VOICED plosives, children within the age group of 3 and 6 obtained mean VOT values that fell within the short lag region (0–30ms). Children aged 4;00 obtained mean VOT values of M=23 (SD=6.506) and M=28 (SD=7.506) for phoneme /b/ and /d/, respectively, with both mean VOT values falling within the short lag VOT range. However, the 4 years old children produced long lag (M=50, SD= 23.000) for phoneme /g/. Children aged 5;00 produced long lag for phonemes /b/ and /g/ and short lag for phoneme /d/. Results revealed that children aged 7;00 obtained mean VOT values for phonemes /b/ and /d/ that fell within the pre-voiced region. However, they produced short lag for phoneme /g/ (M= 24, SD=37.041). For VOICELESS plosives, children aged 3;00 obtained mean VOT values that fell within the short lag range. Children aged 4;00, 5;00, and 6;00 years old produced long lag VOT for both phonemes /p/ and /k/. Children aged 7;00 produced short lag VOT range for phoneme /p/ (M=24, SD=2.517) and long lag for phoneme /k/ (M=32, SD= 2.646). Children from all age groups produced short lag VOT for phoneme /t/. Overall, the VOT values

approached adult-like VOT as age increased for VOICED and VOICELESS plosives.

The further the back the place of articulation, the longer the duration of voicing lag, regardless of short or long lag (Figure 1). On the other hand, the further back the place of articulation, the shorter

the pre-voiced duration, which was noted in children aged 7;00.

As the place of articulation moved further back, the mean VOT values of VOICELESS plosives produced by children aged 3;00 and Malay monolingual adults increased (Figure 2). However, the mean

Table 4
VOT for VOICED and VOICELESS plosives (mean VOT (M) in milliseconds (ms) and standard deviation (SD) by age

Phoneme	Age					Mandarin-Malay bilingual adults (Abdul Hamid et al., 2020)	Malay monolingual adults (Abdul Hamid, 2016)		
	3; 00	4; 00	5; 00	6; 00	7; 00				
VOICED	/b/	M	14	23	32	2	-44	-38	-88
		SD	(1.000)	(6.506)	(0.577)	(5.508)	(5.508)	(55.48)	(3.000)
	/d/	M	25	28	22	21	-6	-12	-76
		SD	(1.528)	(7.506)	(<0.000)	(4.000)	(25.502)	(61.23)	(3.055)
	/g/	M	28	50	46	30	24	23	-54
		SD	(1.000)	(23.000)	(7.506)	(9.000)	(37.041)	(40.68)	(2.887)
VOICELESS	/p/	M	19	54	54	34	24	30	12
		SD	(0.577)	(29.000)	(6.506)	(8.000)	(2.517)	(13.28)	(3.055)
	/t/	M	24	29	24	16	20	21	15
		SD	(1.528)	(1.000)	(5.508)	(1.528)	(1.732)	(5.08)	(2.646)
	/k/	M	30	57	81	65	32	31	32
		SD	(2.000)	(5.508)	(9.504)	(14.503)	(2.646)	(9.60)	(6.557)

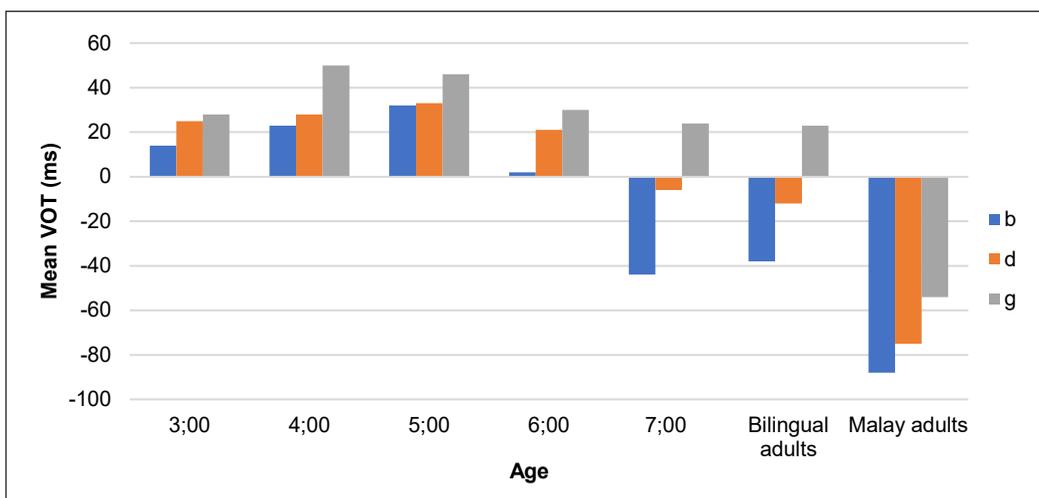


Figure 1. Mean VOT values for VOICED plosives across age group

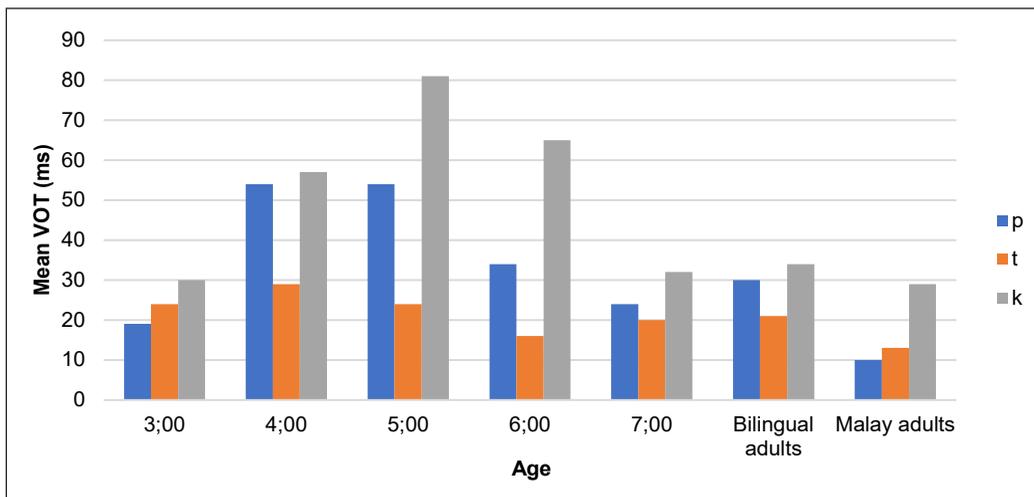


Figure 2. Mean VOT values for VOICELESS plosives across age group

VOT values of children aged 4;00 to 7;00 and bilingual adults did not follow the same pattern. The alveolar plosive /t/ had shorter VOT value compared to bilabial plosive /p/ and velar plosive/k/.

Age of Acquisition of Voicing Contrast

All children aged 3;00, 4;00, and 5;00 did not produce a pre-voiced VOT pattern for VOICED plosives /b, d, g/. In the age group of the 6-year-old, 2 children (66.67%) did not produce the pre-voiced phoneme /b/, and all the children (100%) did not produce pre-voiced phonemes /d/ and /g/. All children aged 7; 00 (n=3) produced pre-voiced for plosives /b/; however, not all produced pre-voiced for /d/ and /g/. It was noted that voicing contrast in plosives was not fully established by 7 years old, especially for VOICELESS plosives /d/ and /g/.

The mean VOT value for phoneme /p/ was similar to phoneme /b/ at age 3 (Figure 3). It could be seen that the mean VOT values for both phonemes/p/ and

/b/ increased from age 3;00 to 5;00, and both phonemes demonstrated a decrease in the mean VOT values at age 6;00. The negative mean VOT value indicated that children aged 7;00 produced pre-voiced for phoneme /b/. Children aged 7;00 obtained mean VOT values similar to bilingual adults but did not achieve the VOT range produced by Malay adults.

Children aged 3;00 to 6;00 obtained positive and similar mean VOT values for both phonemes /t/ and /d/ (Figure 4). However, for the phoneme /d/, children aged 7;00 obtained a negative VOT value, indicating that they produced a pre-voiced VOT pattern for this phoneme.

Unlike native Malay speakers, children aged 3;00 to 7;00 and bilingual adults did not produce negative mean VOT values for the phoneme /g/. Instead, they produced voicing lag (positive VOT) for both phonemes /k/ and /g/ (Figure 5). In addition, children did not produce pre-voiced for velar plosive /g/.

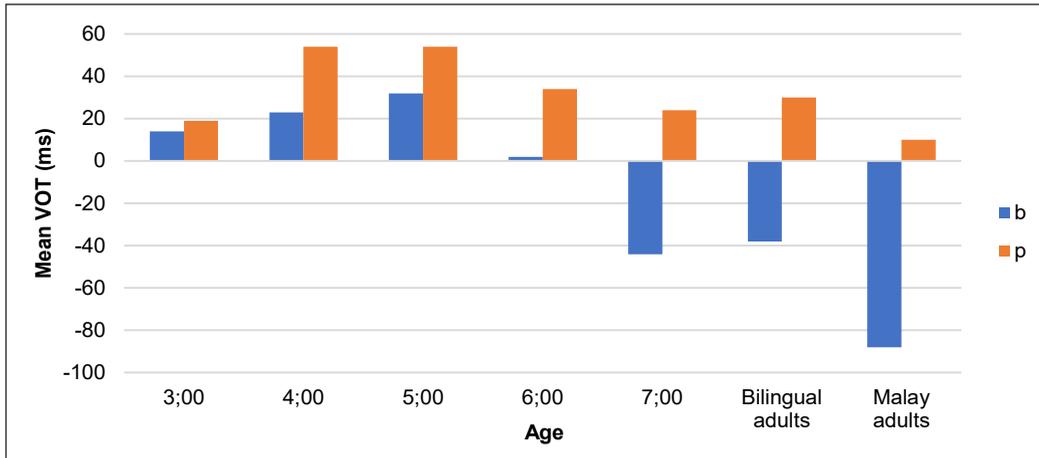


Figure 3. Mean VOT values for bilabial plosives /p/ and /b/ across age groups

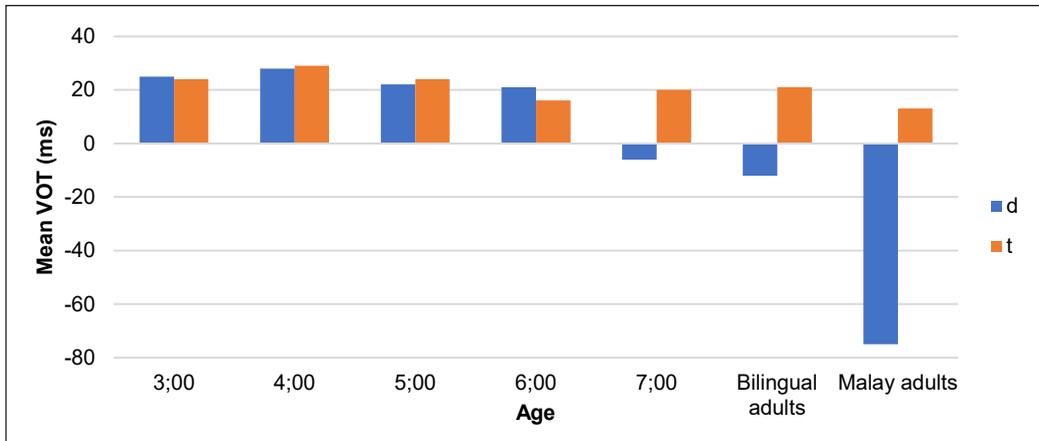


Figure 4. Mean VOT values for alveolar plosives /t/ and /d/ across age groups

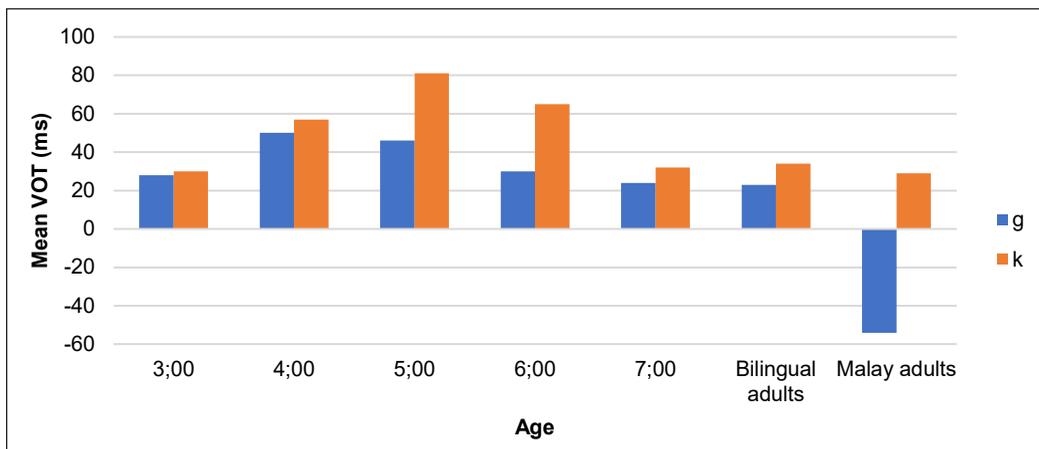


Figure 5. Mean VOT values for velar plosives /k/ and /g/ across age groups

DISCUSSION

This study investigates the VOT pattern of Malay word-initial plosives produced by Mandarin-speaking children by measuring the VOT values and determining the age of acquisition voicing contrast.

VOT of Malay Word-Initial Plosives Produced by Mandarin-Speaking Children

Three-stage models were proposed by Macken and Barton (1980) on the acquisition of English syllable initial plosives. However, Macken and Barton (1980) were conducted on L1 English (short lag vs. long lag), while the current study was conducted on L2 Malay (pre-voiced vs. long lag). Therefore, it is noted that children in the present study achieve the stages at different ages than subjects in the previous study.

Stage I. In the present study, Mandarin-speaking children aged 3;00 only produced a short lag for VOICED and VOICELESS plosives. It is consistent with past studies of word-initial stops in other languages (Shahidi et al., (2016) on Malay monolingual children, Yang (2018) on Mandarin monolingual children, and Shahidi and Aman (2011) on Malay-English bilinguals). According to Abdul Hamid (2016), children are expected to produce only a short lag in the early stage of acquiring voicing contrast. According to the mentalist theory of language learning, an individual's innate predisposition toward language acquisition is universal. Based on articulatory and aerodynamic considerations, Kewley-Port

and Preston (1974) hypothesized that short-lag VOT is acquired first because it is easier to produce short-lag VOT than long-lag VOT productions. Short-lag VOT production does not exceed the abilities of the immature motor system of a young child (Green et al., 2000).

Stage II. Before age 7, Mandarin-speaking children produced short and long lag, which differed from the expected VOT pattern. According to Macken and Barton (1980), children initially produced longer VOT for plosives than adult speakers, then experienced a drop in VOT before achieving adult-like VOT. In line with that, Tanaka (2018) reported that Japanese-Mandarin bilinguals aged 4;00 and 5;00 produced relatively longer VOT values than the children aged 3;00 and 6;00 across all stop categories. The same phenomenon could be observed in the VOT means produced by Mandarin-speaking children in the present study.

Stage III. The expected pre-voiced VOT in VOICED plosives emerged when the child was 7 years old for phonemes /b/ and /d/. In line with current findings, Deuchar and Clark (1996) hypothesized that a fairly adult-like model would develop at around seven. However, as age increased, the VOT values approached adult-like VOT values. Although children had acquired voicing contrast of L2, it was believed that the fine-tuning continued and extended into school-age years. It was particularly evident in languages with pre-voiced and

short-leg VOT contrasts (MacLeod, 2016). Meanwhile, the phoneme /g/ was produced with voicing lag rather than pre-voiced. Kewley-Port and Preston (1974) reported the same phenomenon where children aged 6;00 produced voicing lag for the phoneme /g/, which differed from the expected VOT pattern.

Other than this, Zlatin and Koenigsnecht (1976) also proposed that the acquisition of voicing contrast in English-speaking children changed from a unimodal (in favor of short lag VOT) to an emerging bimodal to a typical bimodal pattern. A similar developmental path could be observed in the present study. In the present study, the VOT distribution demonstrated a unimodal pattern (short lag VOT) in the 3-year-old, which developed into an emerging bimodal pattern (short lag-long lag contrast) in the 4 to 6-year-old and gradually approximated the bimodal distribution of the adult speakers (pre-voiced- short lag VOT).

The VOT of plosives produced by Mandarin-speaking children aged 3;00 was consistent with previous findings (Cho & Ladefoged, 1999; Shahidi et al., 2012). The further the back the place of articulation, the shorter the duration of pre-voiced, and the longer the duration of voicing lag (short or long). However, the Malay VOICELESS plosives produced by Mandarin-speaking children aged 4;00 to 7;00 did not conform to the general agreement. Phoneme /t/ had shorter mean VOT than phonemes /p/ and /k/, similar to VOT produced by Malay-Mandarin bilingual adults (Abdul Hamid et al., 2020). It is also interesting to note that

the finding was consistent with previous studies on Mandarin monolinguals (Chao & Chen, 2008; Chen et al., 2007; Liao, 2005). The VOT duration for Mandarin aspirated /t^h/ had shorter VOT than /p^h/ and /k^h/ (Rochet & Yanmei, 1991). Researchers hypothesized that the place effect may be language-specific and may not be so robust in Mandarin. Therefore, CLI was suggested as it may be a sign of influence from L1 (Mandarin) in the realization of the L2 (Malay) VOT pattern in the present study.

Acquisition of Voicing Contrast

According to MacLeod (2016), task demands may influence a child's ability to manipulate acoustic-phonetic cues. Prior studies of languages that included a pre-voiced VOT contrast focused on three types of tasks: repetition (Eilers et al., 1984), picture naming (present study; MacLeod, 2016), and spontaneous speech (Bóna & Auszmann, 2014). Thus, variability in the age of acquisition of voicing contrast in previous studies may be partly explained by the different tasks used and the languages examined. A study by Abdul Hamid in 2016 used a similar procedure as the present one. Abdul Hamid (2016) reported that Malay monolingual children acquired voicing contrast (pre-voiced vs. short lag) at 4-years-old. However, the present study revealed that Mandarin-speaking children acquired the voicing contrast in Malay word-initial plosives (pre-voiced vs. short lag) at 7 years old, except for the plosive /g/.

The possible explanations for the later acquisition of voicing contrast and

pre-voiced in Mandarin-speaking children may be based on: (i) Motor development and coordination, (ii) Cross-Linguistic Influence (CLI), and (iii) Perceptual, social and environmental factors.

Motor Development and Coordination.

Compared to the apparent simplicity of voicing lag production in L1, pre-voiced in L2 requires a high degree of motor coordination (MacLeod, 2016). It requires coordination between vocal fold adduction and plosives closure, leading to increased intraoral pressure (Cho & Ladefoged, 1999). During the closure phase, when the oral cavity is sealed off, it is difficult for speakers to maintain the requisite aerodynamic condition (difference in air pressure) for vocal fold vibration. In the present study, the later acquisition of pre-voiced in Malay VOICED plosives supported the idea that pre-voiced is more difficult to produce than voicing lag. In line with studies done on Malay monolingual children (Abdul Hamid, 2016) and Malay-Mandarin bilingual adults (Abdul Hamid et al., 2020), Mandarin-speaking children (subjects) undergo the same process where pre-voiced in /b/ is acquired first, followed by /d/ and /g/. The shorter the length of the pre-voiced, the easier the pre-voiced is produced (Abdul Hamid et al., 2020). Plosive /g/ has the shortest pre-voiced and requires the highest motor coordination. Kent (1976) reported that as age increases, the accuracy of motor control increases. Children aged 7; 00 producing pre-voiced VOT proved the maturation of motor skills and coordination.

Cross-Linguistic Influence (CLI). The use of the L1 VOT pattern in acquiring voicing contrast of L2 was often interpreted as CLI. The acoustic analysis of the VOT of initial Malay-accented English plosives confirmed the presence of CLI (Shahidi et al., 2012). In the present study, the absence of pre-voiced VOT production in Malay VOICED plosives by children aged 3;00 to 6;00 could be a sign of influence from L1 (Mandarin) in the VOT pattern of L2 (Malay) and yet to acquire the phonetic system of L2 (Abdul Hamid et al., 2020). It was also noted that children aged 4;00 to 6;00 produced VOT that fell within the short and long lag regions, contrary to the expected VOT pattern. They used the L1 (Mandarin) VOT pattern (short lag vs. long lag) in the process of acquiring voicing contrast (pre-voiced vs. short lag) in L2 (Malay). There is a ‘carry-over’ of L1 phonetic features of voicing contrast onto L2 plosives production, which causes the late acquisition of voicing contrast in L2 by Mandarin-speaking children.

Perceptual, Social, and Environmental

Factors. Flege’s Speech Learning Model (Flege, 1995) was developed to account for L2 sound acquisition and pronunciation. The model claimed that different phonetic categories were likely to be established for each language if bilinguals perceived some of the two languages’ phonetic dissimilarity. Thus, it was suggested that bilingual children could produce native-like VOT values accurately if they perceived the phonetic dissimilarity between the sounds of their two languages (Tanaka, 2018). In agreement

with the model, Davis (1995) suggested that pre-voiced acquisition may be tied to the acoustic salience of this contrast relative to short-leg and long-lag VOT. Aslin et al. (1981) studied the VOT perception by infants. The results showed that pre-voiced VOT was less salient than the short-leg or long-lag VOT. Thus, in the present study, the later acquisition of pre-voiced at the age of 7;00 could be due to pre-voiced in L2 (Malay) being less salient than short lag-long lag contrast in L1 (Mandarin).

According to the normal development pattern for VOT production, all plosives are produced with short lag VOT initially (Zlatin & Koenigsnecht, 1976). Therefore, Khattab (2002) proposed that a bilingual's use of short lag instead of pre-voiced might be developmental rather than CLI. However, bilingualism might hinder the acquisition of certain features that require early and extensive exposure if bilinguals receive inadequate input on these features. A study by Khattab (2002) on English-Arabic children revealed that adequate Arabic pre-voiced input at an early age was necessary for children to master the complex articulatory features required for pre-voiced production.

In the present study, Mandarin-speaking children acquiring voicing contrast at 7;00 may be due to the Malay language's inadequate input at a younger age. It is similar to the factor suggested by Abdul Hamid et al. (2020); the period being exposed to L2 causes VOT variation among subjects. Children also only began attending primary school at the age of 7, which might, in turn,

have increased the Malay input in their environment. Subsequently, this increase could have led to pre-voiced becoming more salient in their environment, thus explaining Mandarin-speaking children acquiring pre-voiced VOT at 7. It is hypothesized that children with maids/ friends/neighbors who spoke Malay may acquire Malay's voicing contrast earlier. It is due to the frequency of using Malay in communicating increases, which then ease acquiring L2 phonetic (Abdul Hamid et al., 2020).

Khattab (2002) also mentioned that if parents or caregivers did not consistently produce pre-voiced Malay voiced plosives, it might affect the child's acquisition of this feature. In the current study, it is worth noting that Mandarin-Malay bilingual adults did not produce pre-voiced VOT for phoneme /g/, similar to Mandarin-speaking children. A study by Deuchar and Clark (1996) on English-Spanish subjects found similar results; children produced VOT patterns like their parents, which differed from the expected pattern. Further research on this topic could consider factors such as types of bilingualism (e.g., simultaneous/ sequential bilinguals) and the amount of exposure to L2.

Multiple Bursts and Aspiration

Although it was not one of this study's objectives, some children were noted to produce aspiration and multiple bursts in their spectrogram. Aspiration serves as a longer noise interval after the stop is released and before the vowel. It is a phonetic cue that differentiates Mandarin plosives. Therefore,

the presence of aspiration suggests CLI occurs when Mandarin-speaking children produce Malay plosives. It is consistent with Abdul Hamid et al. (2020) study on Malay-Mandarin bilingual adults. Yang (2018) also reported that children tended to produce more multiple bursts than adults. According to Yang (2018), children produce multiple bursts while producing plosives because they have smaller articulator sizes that cause higher subglottal pressure. High intraoral pressure followed by negative pressure caused constriction formation for subsequent bursts. Thus, multiple bursts in plosives are observed. Future studies could further examine the relationship between VOT and the number of bursts.

CONCLUSION

The study investigates the age of acquisition of voicing contrast in Malay word-initial plosives produced by Mandarin-speaking children through acoustic analysis of VOT. The findings from the study indicate that Mandarin-speaking children acquire voicing contrast (pre-voiced vs. short lag) in Malay word-initial plosives at the age of 7;00. VOT distributions follow the developmental path proposed by Macken and Barton (1980) and Zlatin and Koenigsknecht (1976). The further the back the place of articulation, the shorter the duration of pre-voiced, and the longer the duration of voicing lag (short or long), except for the phoneme /t/. The voicing contrast's developmental acquisition findings also give insight into the motor control mechanism and coordination, CLI, and social and environmental exposure

influence VOT acquisition. As age increases, the VOT values approach adult-like VOT values. However, interesting findings are seen in younger children in this study. They did not follow the typical VOT pattern and produced multiple bursts of aspiration, denoting the carry-over influence of L1 phonetic features of voicing contrast onto L2 plosives production. This information helps us to describe the developmental trend of phonetic categories in bilingual children. The present study had a relatively small sample size; further studies using a larger sample size and controlling for the duration of exposure to L2 are recommended to obtain more representative data.

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The Holocaust and the *Chahi Taret Khuntakpa*: A Critical Comparison

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ABSTRACT

Genocides have become an indelible scar in the history of humankind. These dark historical episodes epitomise power struggles between races and the perils of group identification. One such episode considered a unique occurrence in human civilisation is the Holocaust (1940-1945). Another seemingly forgotten historical episode is the *Chahi Taret Khuntakpa* or the Seven Years' Devastation. It took place in the land of *Poirei*, now known as the state of Manipur, located in the northeastern part of India. The Seven Years' Devastation refers to the atrocities committed by the Burmese against the Meitei civilisation from 1819 to 1826. This event, which led to the signing of the Yandabo Treaty of 1826, found a prominent place in the history of Southeast Asia. This paper examines the striking similarities and the cause of genocide between the Seven Years' Devastation and the Holocaust. Moreover, the paper also studies the effects of violence in the Seven Years' Devastation and the Holocaust.

Keywords: Genocides, Holocaust, Manipur, Meitei violence, Seven Years Devastation

INTRODUCTION

In analysing the *Chahi Taret Khuntakpa*, the seven prolonged years of the devastation faced by the people of Manipur during

1819-1826, and the Holocaust, one cannot miss the numerous parallelisms between the two. The *Chahi Taret Khuntakpa* that occurred in the land of *Poirei*, now Manipur, India, during 1819–1826, has striking similarities with the Holocaust that happened in Europe during the Second World War between 1941 and 1945. The *Chahi Taret Khuntakpa*, or Seven Years Devastation, was a horrific experience of the Burmese invasion of *Poirei*, now Manipur, to annihilate the Meitei race, the dominant

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race of the Manipur valley. The effect and consequences of this invasion, which nearly killed all the people of Manipur valley, have been recorded in *Cheitharol Kumbaba* or the Royal Chronicle of the Meiteis. However, Manipur was not the only kingdom that bore the brunt of Burmese invasions; Assam, her neighbouring kingdom at the beginning of King Bagyidaw's reign (1819–1837), also faced the same terrifying consequences of the Burmese attacks between 1821 and 1825 (Baruah, 1983).

Similarly, the bitter reality of the Holocaust still haunts us even today, although it happened seventy-four years ago. This horrific event is still fresh in the minds of the readers and those who directly experienced it. Nazi Germany believed in terminating those whose lives they considered worthless, known in German as *Lebensunwertes Leben*, meaning "life unworthy of life." Jason (2016) has given an interesting aspect of the Nazi ideology; he argues that

the targeting of Jews and other groups helped to solidify the regime's nationalistic side of the Nazi ideology. The socialist side of it was that in killing Jews and others, the regime collected much-needed assets with which to pursue its militaristic agenda (p. 67).

This ideology initially targeted the mentally unstable and racially inferior groups of people in Germany. However, later, it took a drastic turn, and its main

objective was eradicating the Jews. This ideology ultimately became a law known as the Final Solution. Baum (2008) examines the Holocaust as

The annihilation of an entire group occurred repeatedly in the twentieth century. While the Holocaust is the best-known example, it is not the only example nor even the one claiming the most victims, it is estimated that 6 million Jews died in the Holocaust (p. 21).

Genocide is a term coined by Rafael Lemkin, a Polish Jew Holocaust survivor. He struggled for recognition of the form of mass killing as defined by the United Nations Convention on the Prevention and Punishment of the Crimes of Genocide, 1948, as actions done with the idea of destroying the whole nation, ethnicity, race, or religious group (Baum, 2008). The United Nations terms genocide as "the ultimate crime and the gravest violation of human rights it is possible to commit" (Sautman, 2006, p. 23). All genocides have their specific context, be it the mass murder in Rwanda, Cambodia or Armenia, but all happened under different circumstances. This study explores the common elements in the two historical events, namely the Holocaust and the *Chahi Taret Khuntakpa*, by exploring the causes and effects of violence. Although the two events took place in different times and places, both share certain similar dynamics of violence.

LITERATURE REVIEW

The Holocaust is fairly overworked in terms of academic research, and so this literature review will mostly be about the *Chahi Taret Khuntakpa*. Scholars around the globe have conducted extensive studies and research on the Holocaust; however, minimal academic works of acceptable quality have been attempted on the Seven Years' Devastation and associated events. Moreover, there is no evidence of attempts to investigate the commonalities between the Holocaust and the Seven Years' Devastation. Due to a lack of documentation on the Seven Years' Devastation, only limited knowledge can be uncovered in fragmentary forms. This limited knowledge is primarily the product of verbal narratives passed down from generation. As part of the literature review, descriptions from the available limited number of published works on the tragedy that befell the Meiteis shall be discussed so that a proper study of the commonalities between the Seven Years' Devastation and the Holocaust can be conducted.

The Burmese rose in political power in South-East Asia in the middle of the 1st century. Around the same time, they started playing an important role in the politics of North-Eastern India. The relationship between the two kingdoms of Manipur and Burma was always characterized by an alternation of cordiality and hostility in the same mode as any neighbouring communities around the globe. There were periods of harmony, social and cultural symbiosis, matrimonial coalitions, and business trades. However, prior to the

Chahi Taret Khuntakpa, other horrendous activities prevailed within the Manipuri kingdom. It included the delusion of esteeming and entertaining unfamiliar religious indoctrinations from yonder only to find the pure ancestral wisdom repressed and exacerbated. An arrogant apathy over the tribes of Manipur was also exercised through unwarranted struggles by members of the royal family for power and governance. These activities greatly weakened the Manipuri Kingdom and allowed the Burmese to overrun Manipur, almost exterminating the Meiteis. This seven-year-long tragedy, filled with the mass killing of the Meiteis, is engraved in the pages of history as Chahi Taret Khuntakpa (Sanajaoba, 2020). *Chahi Taret Khuntakpa*, the darkest period in the history of Poirei, commenced in 1819 and continued till 1826 when Gambhir Singh liberated Manipur with the help of provincial allies and the British government (Sanajaoba, 2020). In contemplating the atrocity of *Chahi Taret Khuntakpa*, the first and most critical aspect that comes to mind is the term used in the description, '*khuntakpa*.' Presumably, '*chahi taret*' signifies seven years. However, '*khun*' suggests the concept of a settlement or a village. At the same time, '*takpa*' suggests the relinquishment of homes due to defenceless or life-threatening circumstances imposed upon the residing individuals.

Though the task of finding the closest word of conveyance in the English vocabulary becomes a little demanding, overall, it expresses the pictorial of

communities abandoning their shelters and comforts, which would then turn into forgotten ghost towns crammed with memories of trauma. The account of this horrific event introduces readers to the intensity of hatred and apathy capable and projected unto the inhabitants of Manipur by the Burmese supremacy. Through collected pieces of well-founded information and events acknowledged as accurate, the fact of the lesser-known catastrophe, '*Chahi Taret Khuntakpa*' or 'The Seven Years' Devastation' becomes an unavoidable entity that needs to be addressed that the event, *Chahi Taret Khuntakpa*, has ever been remembered from generation to generation by word of mouth. As this event has been enshrined in indelible ink in the history of Manipur, it will remain unforgettable for posterity (Indramani, 2015). The event was characterized by extreme sadism and brutality that remain unnoticed even today when human knowledge about world history has reached its pinnacle. Kamei (2016), in his book *A History of Modern Manipur* (1826-2000), writes:

After the Burmese overran Manipur ...the devastation of Manipur was going on in full swing. After a conflict of a little more than a century, Burma got a splendid opportunity to devastate Manipur. The Manipuris were not very numerous in race. But they gave the Burmese much trouble in the first half of the 18th century. In the second half, the Burmese got

temporary successes over the Manipuris by means of superior arms and numerical strength. But impossible was the task to subdue the Manipuris (pp. 12-13).

Subsequently, as the name suggests, it was an incident of the Burmese auxiliary ravaging everything in its path, trying to wipe out the Meitei race and other fellow tribes of Manipur from 1819 to 1826. Furthermore, thus, an indelible shadow still looms even to this day, for the people did not know that these premeditated causalities would lead to a horrifying event of disgrace and dishonour (Ningthoujam, 2021). This unsavoury event could have been averted if the Manipuri monarchy of that era had not been plagued with disunity and jealousy among the royal family members. The root cause of the devastation must be attributed to the turmoil raging in the relationship between the two brothers from the royal family and their strategic shenanigans to capture the throne of Manipur. The dethronement of the previous king, his brother Marjit evidently with the support of the Burmese, resulted in forging an obligatory tie with the Burmese. Hence, their implicit nefarious activities within Manipur began from then on.

However, by declining the invitation to the wedding of the Burmese king, King Marjit, who shamefully took their support in dethroning his elder brother, showed a lack of thankfulness and gratitude towards the former. Consequently, the Awa king felt snubbed, and he attacked the

kingdom of Manipur with intense hatred towards the progress and prosperity of various tribal civilizations flourishing in the valleys and hills of Manipur (Harvey, 2019). Furthermore, unfortunately, being a repulsive, crafty and ignoble character, King Marjit fled to the Cachar district for his life's safety and preserved his sanity, leaving behind thousands of innocent children and incapable parents their parents to be crucified and tormented by the Burmese auxiliaries. Many men were taken away with their palms pierced and nailed to wooden structures, thus reminiscent of the biblical suffering of the pure, the innocent and the Christ-like. As the helpless men were humiliated in front of their wives and children, women and children were not spared. In an estimation of the deaths, Kamei (2016) writes, "the population was reduced to 10,000 souls or 2000 families. Such a terrible visitation of destruction and death came rarely in the destiny of a nation" (p. 13). In addition, Singh (2009) estimates that:

About five lakh fifty thousand Manipuris were killed during this period ... More than three lakhs thirty thousand Manipuris were carried as captives. Those who refused to go were killed mercilessly on the way. It is said that about one lakh of the prisoners were executed on the way. The captive Manipuris were sold as slaves in the markets of different parts of the world. But some of them were allowed to settle in Burma (pp. 60–61).

In addition to the trauma of the warfare, certain precursor events that triggered the war must also be laid out. Long before the infamous "Merger Agreement" of 1949, which coerced the small sovereign country of Poirei into joining India as a state, alien castes and religions had always been influencing the Meitei culture, much to the dismay of many puritan and elitist believers and followers of Sanamahism (Parratt, 2009). Sanamahism or Meiteism refers to the worship of the household deity, Sanamahi. An unshakeable impression of the religion is witnessed as interlopers of foreign beliefs, though keeping their religion would also allocate a corner in their households for the same deity. Moreover, there are epistemological narratives behind the tussle to ascend to the throne between Sanamahi and the serpentine god, Pakhangba, which is philosophically striking for enthusiasts of mythology; a topic far too gargantuan and tangential to be discussed within this paper. However, attending to the history behind the interlopers that encroached and diffused their religion into the authentic customs of the Meiteis, one incident among the countless setbacks of Manipur, the '*Puya Mei Thaba*' comes to mind. It was yet another existential blow comparable to that of *Chahi Taret Khuntakpa*. It was an outrageous attempt to obliterate the theological origin of the Meiteis, and accounts of history, medicine, art, and philosophy were the prizes at stake. Many saw that event as an act of absolute treason. The incineration of all written evidence of divine wisdom obscured an unrecoverable

amount of knowledge, wisdom, and guidance for the Meitei society. That evil act destroyed completely all the age-old sources of ancestral enlightenment that had existed for so long within the safeguard of the old tradition. Furthermore, previous attacks waged by Garibniwaz and the spiteful circle of attacks and counterattacks on the Burmese and by the Burmese were the immediate cause of the Seven Years' Devastation. However, the conversion of Meiteis into Hindus, much to the dismay of many who wanted to stay true to the old convictions but feared the wrath of the monarch, was also one of the indirect causes of Seven Years' Devastation. Such an incident can be considered 'cultural genocide. Sautman (2006) described cultural genocide as any undesired, exogenous change in a subaltern ethnic group's culture; regrettably, that was precisely what happened in the case of Manipur.

The Seven Years' Devastation occurred due to several internal and external factors. The internal influence was due to the incompetent rule by successors after Garibniwaz and conspiracies and treacherous war plans within the same lineage. The external factor was the imperialist expansion of the Burmese kingdom. Mackenzie (2012) has stated that the main outbreak of Seven Years Devastation occurred "with the death of Garibniwaz there now began a war of succession of the most savage and revolting type in which a single trait of heroism to relieve the dark scene of blood and treachery" (p. 149). Garibniwaz is a significant figure in the discussion of the

Seven Years' Devastation, whether for a good or bad cause. Written illustrations exist of him invading Burma several times during his power. However, the attacks were fuelled by mawkishness as Garibniwaz revolted against the Burmese as a form of avenge for his aunt, Princess Chakpa Makhaongambi (Parratt, 1989). King Charairongba's father gave his sister's hand in marriage to the Burmese king, Sanay. The gesture was to strengthen the ties and communion between the two kingdoms. However, Sanay manifested infidelity when he decided to marry another woman and inducted her as his queen instead of Garibniwaz's aunt. King Charairongba perceived this as a grave insult to his sister and himself. Ironically, he passed away before he could avenge the ill-treatment of his sister; but he made it a point to remind the young Garibniwaz that he must get even the score with the Burmese. The impact of the genocides and the maladies in both these historical events, namely the Chahi Taret Khuntakpa and the Holocaust, require further investigation inside and outside the academic domain.

METHODS

The study analyses and compares the *Chahi Taret Khutakpa* with Holocaust, as Holocaust is the most widely known genocide and holds a unique position recorded in human history. This paper conducts a comparative study of the employment of violence in both two events. The paper focuses on two essential aspects to achieve these objectives: (i) Comparison and analysis of the causes

of genocide in the *Chahi Taret Khuntakpa* and the Holocaust and (ii) Examination of the effects and partial erasure of violence. This study employs historiography, critical analysis of theories regarding violence and close observation of human existence. The data used in this paper have been collected from various historical writings on Manipur and Europe written by various scholars. This research aims to add to the discourse on the *Chahi Taret Khuntakpa*, as there are minimal resources and documentation on this historical event.

RESULT AND DISCUSSION

The causes of the *Chahi Taret Khuntakpa* have been elaborately discussed in the Literature review section. The direct and indirect causes have been analysed and discussed. The indirect cause was the internal conflict between the two brothers of the royal families, which weakened the Manipuri Kingdom. The direct causes are the rise of Burmese imperialism and King Marjit's act of ingratitude toward the Burmese King.

After the broken alliance with the Soviet Union, in 1941 June 1941, the two enemies killed civilians in a pattern of belligerent complicity. "Hitler envisioned a racially conceived colonial demodernisation of the Soviet Union and Poland take tens of millions of lives, which gave way to a final solution as anti-Semitism goals proved to be more attainable than other" (Snyder, 2012, pp. 149-150). Bergen (2009) writes on the rise of the Nazi party:

Smooth functioning of the system did not require all Germans—or even most—to share every tenet of Nazi ideology. Enough enthusiasts could always be found to stage enormous public shows of support, such as the annual Nazi Party rallies. On a day-to-day basis, the Nazi regime only needed most people to obey the law, try to stay out of trouble, and promote their own interests as best they could under the current circumstances (p. 75).

There was social and psychological fear of the Jews occupying Germany; hence the Nazis desired to create a nation only for the Aryan race. Thus, the leading cause of the Holocaust is mainly considered due to anti-Semitism. In an interview, Primo Levi, a Holocaust survivor, says

anti-Semitism has ancient and multiple roots: at times, it has been religious in character, at other ethnic or economic. But in Germany, in its most virulent form, it was an irrational impulse, intimately biological and its make-up, even when dressed up in low-grade Romantic philosophy (Belpoliti & Gordon, 2001, p. 181).

The irrational impulse of the authoritarian and the conviction that he/she instils in the thoughtless and impulsive masses prompts the existence of such an unwarranted phenomenon. The masses

that believed in the extremely romanticised version of a totalitarian philosophy of the Aryan race led to the establishment of ghettos where Jews from different parts of Europe were deported, and mass executions were carried out. The extermination was performed systematically, where all the Jews undergo a process called 'selection,' and through this process, they undergo execution. German thinker Hannah Arendt (1951), at the outset of her work *The Origin of Totalitarian*, writes about the Holocaust stating that "a victory of the concentration camp system would mean the same inexorable doom for human beings as the use of the hydrogen bomb would mean the doom of the human race" (p. 443).

Arendt (1970), in her book on violence, remarked that "violence is nothing more than the most flagrant manifestation of power" (p. 35). Arendt asserts this statement by quoting C. Wright Mills's definition, saying, "All politics is a struggle for power; the ultimate power is violence" (p. 35). The Burmese and the Manipuris lusted for power and strongly believed in exacting retaliation by inflicting acts of violence. One of the Burmese's most prominent methods of violence during the Seven Years' Devastation was the mass killing of helpless folks by setting ablaze chillies within unventilated halls. Singh (2009) reports that a

big crowd of civilians consisting of women and children were forcibly pushed into big houses where there were no ventilation. When the houses were full of victims' dry chillies were burnt inside the houses

till the crowd dies of suffocation ... so ferocious and heartless were the Burmese that they felt joy to see the agony and sufferings and laughed heartily when they heard the cries of the Manipuris (pp. 60-61).

Less than a century later, synchronicity in the continuum of warfare circles back and makes itself visible in the form of the Holocaust. The sort of torture with the use of smoke as an instrument of genocide makes one wince at the thoughts of the concentration camps of the Holocaust, which applied the same form of torture. Though the smoke used for mass killing in the concentration camps was a slightly modified version of Zyklon B, a cyanide-based pesticide manufactured in 1920s Germany, made famous but disreputable by the Nazis during the war to clean the factories from rats and insects. Rosenbaum (2009) described the event of eradicating the Jews as frightening. He noted:

The Nazis intended to destroy all Jews. That aim was neither restricted to specific territory nor based primarily on what Jews had done. Instead, the Nazis' apocalyptic ideology defined Jews to be so inferior racially, so threatening, that their existence had to be eliminated root and branch (p. 28).

Furthermore, although the *Chahi Taret Khuntakpa* and the Holocaust share many similar elements, these elements are distinctive in their ways. The scale of mortality due to genocide is unparalleled

in the Holocaust. Sautman (2006) quotes Winston Churchill's comments about the Nazi genocide: "There is no doubt that this is ...the greatest and most horrible single crime ever committed in the whole history of the world" (p. 3). The anti-Semitism of the Nazis was the main reason that led to the deaths of millions during the Holocaust.

The Nazis constructed concentration camps in which the deported Jews from other parts of Europe were held as captives and later exterminated through a systematic process called 'selection' by burning them inside the concentration camp itself. In the process, they selected the weak and the sickly, whom the Nazis believed would be of no use inside the camp. Comparably the Burmese used a similar method, an attempt to eradicate the whole Meitei race. The Burmese used a similar method; they burned chillies in a closed house without ventilation until the captives died of the smoke. The Burmese and the Nazi Germans shared a similar objective: their well-defined strategy to rid the world of the Meiteis and the Jews. Interestingly, the asphyxiation of the captives with smoke was not the only similar feature of the two genocides; the dictatorial character was relentless in wiping an entire race or civilization out of sheer repugnance, and outrage sparked by a sense of rejection and insult was present in both events. Skloot (2004) saw the Holocaust in the book *Literature of the Holocaust*:

By accepting the historical, inevitable fact of the Jews' persecution across centuries and by focusing his attention on the

irrational terminus of irrational behaviour, the Holocaust, Steiner edges closer to relocating the true tragic material for contemporary literary and dramatic expression in the murder of six million Jews between 1939 and 1945 (p. 51).

Unlike the *Chahi Taret Khuntakpa*, the Holocaust has many documents. Survivors had given their testimonies in witness writings, and most of these documentations are now categorised as 'Holocaust Literature'. Survivors have testified to their experiences and how they resisted the brutality inside the concentration camp. Captives in the concentration camp hoped to survive only to bear witness to the horrendous criminal activities of the Nazis. Primo Levi in *The Voice of Memory*, when asked about his Auschwitz experience, replies:

It has been the sad privilege of our generation to witness the resurgence of these monsters. Perhaps there have been, in distant times, other massacres of people, but none so ferocious, so total in both intention and effect, as that willed by Hitler's Germans in the heart of Europe, a Europe which proclaims itself the world's teacher in matters of civilization (Belpoliti & Gordon, 2001, p. 180).

Violence is a human flaw, and one can assert with these observations that the events, namely the *Chahi Taret Khuntakpa* and the Holocaust, occurred under extreme

atrocious conditions violating basic human rights.

In both events, the perpetrator worked in the same ideology, 'ethnic cleansing.' Both the massacre aimed to destroy almost the whole Jewish and the Meitei race. They implemented the 'utilitarian' role to reach an inclusive goal which comprises a progression of criminality in the name of nationalism. Both atrocities can be asserted by reflecting on the planning and deliberate calculation, which became extreme and killed millions. The Burmese and the Nazi auxiliaries consisted of laymen, convinced to the core that the Meiteis and Jews were the enemies. The unthinking nature of such a kind of collectivism is what Nietzsche would call the "herd." The unconscientious shepherd of the herd directs the thoughtless herd to perform and bend in whatever conduct he/she desires. In *Beyond Good and Evil*, he writes

the oddly limited character of human development—its hesitancy and lengthiness, its frequent regressions and reversals—is due to the fact that the herd instinct of obedience is inherited the best and at the cost of the art of commanding (Horstmann & Norman, 2001, p. 86).

The obedience of the herd does not undergo any critique or judgement. Furthermore, in truth, a command for violence or war is accepted without much hesitation by those that obey. It is one of the many problems of humankind and its actualisation in degeneration.

The effects of both genocides have impacted the young generations. The dispersed groups of Meiteis and Jews because of the genocides are still evident today. Many Meiteis who fled Manipur and settled in neighbouring states and countries like Assam, Tripura, and Bangladesh reminiscence the Meitei culture, even when they have created their diaspora. Similarly, Jews who settled in different parts of the globe still remember the heinous act of the Nazis and have written remarkable works as part of their Holocaust experience. From several perspectives, the Seven Years' Devastation, which is still considered an ill-fated phase in the history of Manipur, is very much like the Holocaust. Both genocides left an indelible mark on the collective consciousness of the following generations.

CONCLUSION

As per the discussions above, it can be concluded that the causes of these genocides are completely different. The causes of the *Chahi Taret Khuntakpa* are the treacherous plotting among the royal family and the rise of the Burmese kingdom. In contrast, the cause of the Holocaust is the hatred against the Jews and anti-Semitism. However, the desire to exterminate a whole race can be seen in historical events. Moreover, the tool used in effecting the mass killings has certain similarities, especially the use of Zyklon B in the concentration camps in the case of the Holocaust; and the burning of chillies in closed chambers in the case of the *Chahi Taret Khuntakpa*. Thus, the incident of *Chahi Taret Khuntakpa*

parallels the decimation of Jews in 1940s Germany in terms of the insanity and the Godlessness it brought about during the war, as both instances witnessed a relentless massacre of races in its entirety. There is also a similarity in both events wherein the survivors dispersed far and wide.

The immaturity of humankind led to horrific events such as *Chahi Taret Khuntakpa* and Holocaust, an extreme example of humans subjugating, tantalizing, and brutalizing other humans under the unexamined conception. The problem in group conflicts, as such, is that the individual identity and reasoning capabilities dissolve into what the group recognizes as hindrances and threats. The group then echoes their superiority and collectively envisions a delusional threat. It is shameful to admit that this is still an ongoing problem in many parts of the world. Furthermore, one can never be too safe from engaging in one of these conflicts as humankind belongs to countries that neighbouring other countries with artilleries. Moreover, though instances of percussive wars will remain mournfully vibrant, the bloodshed demands great introspection and retrospection through knowledge of violence and polity: the knowledge to reduce, if not erase, violence.

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The Commodification of Arabic in the Commercial Linguistic Landscape of Leipzig

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ABSTRACT

Previous studies on the Arabic linguistic landscape have identified the commodification of Arabic in heritage sites; however, the identification was not accompanied by a satisfactory account. The current article investigates the distribution of languages, with particular reference to the position of Arabic in the commercial linguistic landscape of Leipzig, highlighting the commodification of Arabic in the commercial linguistic landscape of Leipzig. The data were collected by taking pictures of shop signs on Leipzig's Strassenbahnstrasse and writing field notes during the participant observation. The quantitative and qualitative results show that bilingual patterns dominated by Arabic are commoner than other language patterns. One of the most interesting findings is the employment of the Arabic word 'halal' to arabicise some terms in Germany and manipulate the Arabic learning environment for selling products. Suggestions for future researchers are put forth at the end of the article.

Keywords: Arabic, language commodification, linguistic landscape, shop signs

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INTRODUCTION

Leipzig, one of Germany's most popular cities, is situated in the Saxony region, 200 KM near Berlin. Leipzig is the second-largest city in East Germany before the Reunification. The city has been a trading center since the Middle Ages because of its strategic location between the trade routes of Central and Eastern Europe. Apart from

being an economic center, Leipzig also has an important role in cultural and educational development. In this city lies the second oldest university in Germany, *Universität Leipzig*, founded in 1409 (Power & Herden, 2016). Leipzig is also one of Germany's multiethnic and multilingual cities. The city's residents come from all over the world, with a wide range of professions and occupations, ranging from students to immigrants.

With such socio-geographical conditions, Leipzig becomes an appealing destination for visitors from a variety of ethnic groups and languages, such as Arabs, Turks, Afghans, Eastern Europeans, and East Asians. Leipzig's *Eisenbahnstraße* neighborhood is one of the city's ethnically diverse and multilingual zones. *Eisenbahnstraße* is a district in Leipzig with a wide range of shops and groceries. In general, these establishments sell or provide Islamic-themed goods.

The Arab ethnic group is among the most numerous in Leipzig's *Eisenbahnstraße*. Many Arabic-themed shops with Arabic writings can be found along this street. This situation demonstrates a sufficient assumption of the Arabic language's dominance in this area. The Arabic language's dominance has undoubtedly resulted from its mingling with the original culture. The Arab people have assimilated into German society and culture (Shamsuddin & Katsaiti, 2020). They employ a variety of cultural integration strategies. Learning German, using German as a communication

language, and displaying a variety of German languages on commercial signs are all examples of cultural integration (Renner et al., 2020).

Despite their cultural, religious, and linguistic integration into German culture, the Arabs retain their cultural, religious, and linguistic identities (Shamsuddin & Katsaiti, 2020). One strategy for preserving identity is using the Arabic language in commerce, particularly in shop signs. Many shops on this street feature Arabic script alongside writing in other languages. This phenomenon needs further research to understand the interaction between the Arabic language and its position among other languages existing in Leipzig's *Eisenbahnstraße* public spaces using a linguistic landscape approach.

Linguistic Landscape (henceforth, LL) refers to a written configuration observable in public areas that include, among other things, road signs, advertising and commercial billboards, instructions, as well as shops' names and other public signs (Landry & Bourhis, 1997). Shohamy (2006), as one of the pioneering scholars, asserts that LL can be interpreted as a domain within a language of the public space because it refers to certain languages and objects that mark the public sphere.

The use of language signs in public places can signal the linguistic situation of a community in a given area so that the language signs can be monolingual, bilingual, or multilingual. In this sense, Landry and Bourhis (1997) argue that

LL is a marker of the geographical territory occupied by distinctive language communities within multilingual states. This perspective depicts most, if not all, of the components of certain geographical areas of LL. As a result, the hub of LL research can be applied not only to the analysis of language use but also developed in a more extensive context from the perspectives of sociolinguistics, applied linguistics, semiotics, language policy, education, and multilingualism (Gorter & Cenoz, 2016) as well as ethnolinguistic vitality, language economy and power, and collective identity (Said & Rohmah, 2018).

The LL of a territory can serve two basic functions: an informational function and a symbolic function (Landry & Bourhis, 1997). The informative function is the function of language in public space, which includes information from the government (non-commercial) and private sector (both commercial and non-commercial ones). The symbolic function is the emergence of a feeling or attitude towards the use of certain language signs by a group of people. The symbolic function is also closely related to the representation of ethnic identity (Gorter & Cenoz, 2008).

According to Scollon and Scollon (2003), language choice on shop signs as private signs might be indexical or symbolic. Nikolaou (2017) gives a clear example of this by depicting a Hindi-language barbershop sign in an inner-city Athens neighborhood that may indicate the presence of an Indian-speaking immigrant

community. The presence of Hindi in the sign has no informational value—at least for the vast majority of non-Hindi speaking passers-by or potential guests—but creates a symbolic association between the restaurant and the culture it represents (Nikolaou, 2017). Scollon and Scollon (2003) refer to the first situation as an example of ‘geopolitical indexing,’ while the second is an example of ‘symbolization based on socio-cultural linkages.’

As a relatively new approach in linguistics, LL has become a focus of interest for several researchers. Geographic domain-based LL research has been conducted, for example, in Indonesia (da Silva, 2017; Yusuf & Putrie, 2022), Malaysia (Ariffin & Husin, 2013; Coluzzi & Kitade, 2015; David & Manan, 2016), Brunei (Coluzzi, 2016), Singapore (Hult & Kelly-Holmes, 2019), Israel (Kochav, 2018; Shohamy & Ghazaleh-Mahajneh, 2012); and Spain (Bellés-Calvera, 2019; Said & Rohmah, 2018). In addition, LL research studies have highlighted a range of languages, such as English (Adetunji, 2015; Backhaus, 2007; Lanza & Woldemariam, 2013), Thai (Huebner, 2006), Japanese (Rowland, 2016), and Chinese (Yao et al., 2020).

Alomoush (2021a, 2021c), Amer and Obeidat (2014), Shohamy and Ghazaleh-Mahajneh (2012), and Yusuf et al. (2022) conducted research on LL with an emphasis on Arabic. Shohamy and Ghazaleh-Mahajneh (2012) conducted a study in Israel, where Arabic was and is still the language of most people, although

the government has put it as a minority language. The research shows an interesting result where Arabic is highly used in the city of Ume El Pahem; 90% of the signs on the internal road, 82% on roads connecting to the main freeway, 87% in senior high schools and 100% in junior high schools albeit its being non-official language. Botterman (2011) and Koskinen (2012) also researched LL, where Arabic was mentioned as a minority language and appeared in the areas with minimum occurrences. Arabic is used in shops and restaurants selling goods specifically for Muslim minorities residing in the territory.

Moreover, Said and Rohmah's (2018) Arabic LL research collected data from Andalusia (Spain), where Arabic was spoken as a lingua franca for about seven hundred years during the Muslim reign and was finally banned after the Reconquesta. The study reports that Arabic as a minority language is found differently in three clusters of areas. In State Discourse Cluster, Arabic is hidden in toponyms since there are many names of places that originated from Arabic vocabulary. In Commercial Circle and Collective Identity Circle, the Arabic language can be found easily but used differently. While in the last circle, Arabic is used to build a collective identity as Muslims who need specific places to pray and to get halal food; the use of Arabic in the commercial circle is to generate income from the tourism sector. Thus, Arabic inscription is preserved for economic purposes. Said and Rohmah (2018) reported that Arabic

was commodified in the commercial and heritage sites; however, they did not explain how the commodification was conducted in detail. Therefore, the current research focuses on the commercial area in Leipzig to completely portray how the commodification of the Arabic language occurs in Leipzig LL.

Shohamy (2006) mentions three important factors that impact language choice and dominance in the LL: power relationships, community identities, self-presentation, consumer reactions and influence. Campbell (2004) noted that the "need" and "prestige" connected with languages, as well as the presence of consumers, had an impact on the language used on commercial signage. Shop names are commercial signs, and business motivations such as the desire to attract potential consumers, boost brand prestige and develop a cosmopolitan image play an important influence in the language used or language choice of such signs. Using attractive language is, therefore, the main focal point of the commercial language to attract potential buyers to buy their products.

The commodification of language, a term that refers to perceiving a language as a product for economic functions, entails the perception that a language has an economic value. The commodification of language has recently gained attention from several language researchers (Graham & Hearn, 2001; Guo et al., 2020; Heller, 2003, 2010; Kogar, 2014; Leeman & Modan, 2009). Heller (2003) refers to this as the process of "language being rendered accessible to

reinterpretation as a quantifiable skill” and, as a result, “the comprehension of language becomes a marketable commodity on its own” (p. 474). Heller (2003, 2010) raised the issue of language commodification, where a language needs to be seen not only as a process of meaning-making, social identities or stratification, and social relations but also as political and economic situations that may affect the process of making meaning and social relations.

Using signs from Washington DC’s Chinatown, Leeman and Modan (2010) investigated how extra-linguistic factors such as political and economic concerns impact the tangible manifestations of language in big areas. Furthermore, relying on the symbolic usage of Chinese in the LL of Washington DC’s Chinatown, Leeman and Modan investigate how minority languages, along with other multimodal design components in the physical surroundings, are commodified and utilized to market the city.

Following Heller (2010), who exemplified marketing as one area where the commodification of language often presents tension, and Leeman and Modan (2010), who investigated minority languages in Washington DC’s Chinatown, the present study is aimed to describe the sign pattern in Leipzig LL, the position of Arabic in Leipzig’s commercial area, and how the commodification of the Arabic language in Leipzig’s Eisenbahnstraße occurs.

METHODS

The early phase of LL studies was mostly conducted using a quantitative approach where all signs in a certain area were photographed and quantified to determine the distributions and patterns of the public signs. More recent LL studies, however, tend to apply qualitative approaches to analyze public signs. For example, Lanza and Woldemariam (2013) used an ethnographic approach focusing more on critical examples illustrating theoretical issues conducted by Moriarty (2014) and Said and Rohmah (2018). Aiming to understand the sign patterns and the position of Arabic in the commercial LL of Leipzig from the perspective of linguistic commodification, the current research applied a quantitative and qualitative approach to analyzing the data.

Fieldnotes and observations were conducted along the Eisenbahnstraße to give an ethnographic context for the LL items to answer the research questions (Alomoush, 2021a). The data for this study were collected by observing and photographing the shop signs along Leipzig’s Eisenbahnstraße area. People from various ethnic backgrounds populate this multicultural neighborhood (Dütthorn, 2017, p. 28). The research location is depicted on the map in Figure 1.

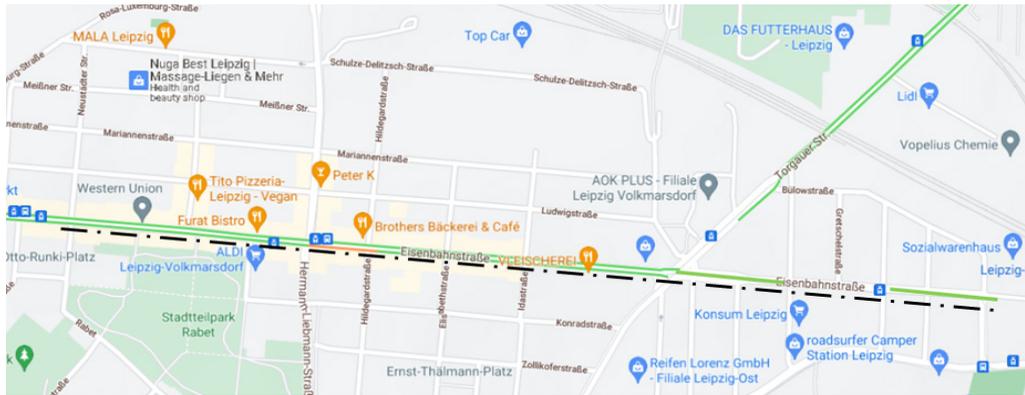


Figure 1. Map of Eisenbahnstraße, Leipzig (Source: Google Map)

There are several types of shops along the surveyed street consisting of service business shops and non-service business shops. Service shops dominating the business in the area provide daily services, such as salons, restaurants (more than 39%),

and groceries (more than 34%). Meanwhile, non-service stores offer secondary products, such as jewelry and communications. Table 1 describes the types of business shops in Leipzig’s Eisenbahnstraße.

Table 1
Type of business shops in Eisenbahnstraße

Shop	Number	%
Restaurant	30	39.4
Groceries	26	34.2
Jewelry	8	10.5
Communication	2	2.6
Travel agencies	8	10.5
Salon	2	2.6
n	76	100

Regular observations were carried out to take pictures of the shop signs and to view the communication and social interactions among sellers and clients in the commercial areas. The data collection was administered in August 2019. A total of 76 different shop

signs were gathered and analyzed. Similar to Edelman’s (2010) study, this research only considered signs displayed in store windows or outside of the store building that is visible from the front part of the shops as data to be analyzed; thus, signs found inside

shops, behind the shop windows or in the interior are ignored (Cenoz & Gorter, 2006; Darquennes, 2013; Gorter & Cenoz, 2008). More specifically, the researchers include three types of store signs as follows:

1. Signs situated above the shop's door/window. These signs are typically used to display the store's name (Figure 2a).
2. Signs extend and appear above the head and perpendicular to the front of the store so that people walking on the sidewalk can clearly see them (Figure 2b).
3. Signs that appear and are pasted on the door/window (Figure 2c).

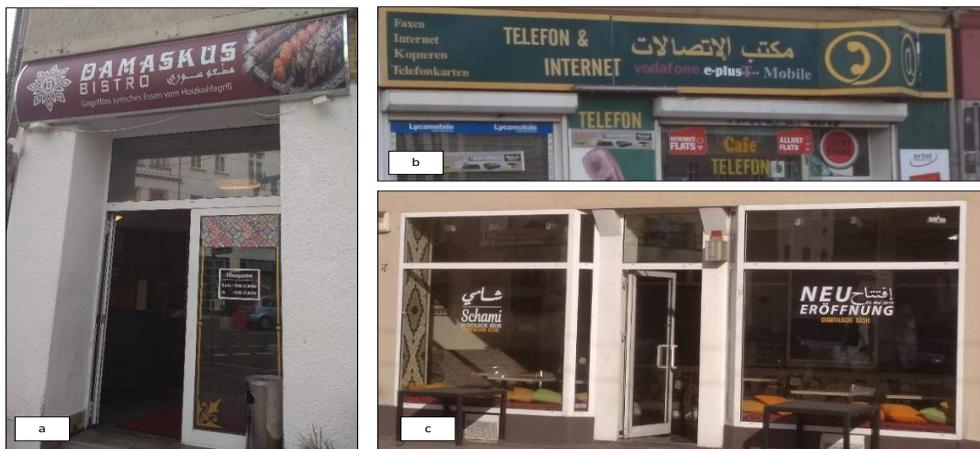


Figure 2. Three types of shop signs

In addition to taking pictures of the shop signs, one of the researchers also recorded communicative events and social exchanges in the LL area using field notes. As a participant observer, he was involved in the day-to-day commercial activities as a client. For example, when eating in a restaurant, he stayed there longer than expected to allow himself to observe the interaction between the sellers and the customers. After each observation, he spent enough time rewriting his field note and adding his reflection to it. The observation results were then discussed with the other researchers to understand the phenomenon more clearly.

One step to guarantee the soundness of the research method in LL studies is determining the unit of analysis, which is not easy. In accordance with Backhaus (2007), a sign was considered to be “any piece of the written text within a spatially definable frame [...] including anything from handwritten stickers to huge commercial billboards” (p. 55). Therefore, Backhaus (2007) mentions two alternative ways of deciding a unit of analysis in LL studies. The first is using each sign as one item with semantic entities like information units, messages, or cases. The second one is based on physical entities. The second one is seemingly more preferred by

linguistic landscapers (Alomoush, 2015); however, dilemmas might still confront the LL researchers, such as whether the front and the backside of a sign should be considered as one or two items or how to deal with impaired signs and different shapes of ‘discarded inscriptions.’ In this study, we adhered to Cenoz and Gorter’s (2006) argument of treating each data capture as a single unit of analysis. In this study, each storefront is photographed once, resulting in one unit of analysis consisting of words, phrases, clauses – sentences, symbols and/or pictures. After that, all images are placed in a special folder for further analysis.

RESULTS

In this section, sign patterns, the position of the Arabic language, the commodification of Arabic in the commercial site and the

impact of the commodification of Arabic on Leipzig’s Eisenbahnstraße are reported.

Sign Patterns of Arabic LL

The Arabic language used in Leipzig’s Eisenbahnstraße and its distribution among the type of shops are presented in Table 2. The use of Arabic apparent on the shop signs is in three patterns, i.e., monolingual, bilingual, and multilingual. As seen in Table 2, bilingual forms are the most frequently found pattern, with almost 95% occurrences, followed by the monolingual and multilingual patterns comprising only around 2% each. The biggest number of bilingual signs appear in restaurants covering more than 36%, followed by groceries with almost 32%. The monolingual and multilingual signs are only apparent in restaurants and grocery stores.

Table 2
The Arabic language patterns distribution in shop signs

n/%	Sign pattern			Total
	Monolingual	Bilingual	Multilingual	
Restaurant	2 (2.6%)	28 (36.8%)		30
Groceries		24 (31.5%)	2 (2.6%)	26
Jewelry		8 (10.5%)		8
Communication		2 (2.6%)		2
Travel agencies		8 (10.5%)		8
Salon		2 (2.6%)		2
	2 (2.6%)	72 (94.7%)	2 (2.6%)	76

The current research data demonstrate that the least amount of Arabic is found in restaurants and grocery stores (2.6% each). The sign in Figure 3 shows a monolingual

Arabic text inscribed on a restaurant window in a big font size of Kufic Arabic. Figure 4 portrays multilingual signs noticeable in a grocery shop that provides daily needs. There

are several languages written on the window of the store, such as Arabic (مواد غذائية), Russian (пищевые продукты), English (Halal-Land), Germany (Lebensmittel, Fleishwaren, Obst & Gemüse), French (Nourriture), Turkish (Gıda ürünleri), and Persian (مواد غذایی). The Arabic and English are printed in big-sized red fonts,

probably to catch the attention of customers and passersby. The German is also printed in red fonts but with smaller font sizes. At the same time, the other fonts of other languages are written in yellow, surrounding the red one. Smaller Arabic alphabets were also written in yellow color.



Figure 3. Monolingual Arabic



Figure 4. Arabic in multilingual signs

Regarding bilingual signs, Arabic appears in all shop businesses in Leipzig. Based on Table 2, Arabic is found in restaurants (36.8%), followed by groceries. Approximately 10% appear in jewelry

stores and travel agencies, salons and communication (around 2%). Figure 5 exemplifies a bilingual sign denoting German-Arabic signage attached above the restaurant's entrance.



Figure 5. Bilingual sign of Arabic in a restaurant

Three types of the placement of bilingual signs can be seen in Figure 2. In Figure 2a, the name of the shop is written in Latin letters (DAMASKUS BISTRO) accompanied by the description or is its

translation in Arabic (مطعم سوري). The Latin script is written bigger than the Arabic and is placed above the Arabic script. The name of the shop is placed right above the

shop entrance of a Middle Eastern-themed restaurant.

In Figure 2b, information signs are presented on the wall beneath the windows and door of the communication or telecom shop. The language signs are written along the shop front in bilingual (Arabic and German) and two types of writing (Arabic and Latin). Both Latin and Arabic scripts are written in proportional-sized so that viewers can have a feeling of seeing a combination of balanced information on the shop.

In Figure 2c, a mixture of two languages: German (NEU ERÖFFNUNG) and Arabic (إفتتاح), pasted on a transparent windowpane, provides information to passersby about a cafe or restaurant. The attachment of German and Arabic words can be found on the left and right sides of the restaurants' windows. While on the side of the door, there are no language signs.

The Arrangement of Arabic in the Commercial Area

Arabic is found side by side with other languages. In addition, Arabic is combined with other languages, namely Arabic with

German, Arabic with English, and German with Arabic. Among all combinations, the use of Arabic dominates and becomes the language that stands out. The prominence of Arabic can be known in three forms of its arrangement: its position or placement of writing, font size, and use of color.

Furthermore, to show dominance, Arabic script is written or placed above the writings of other languages. On the other hand, Arabic may be placed under the writings of other languages. In addition, conceivably, Arabic is written parallel to other languages in big-size fonts. However, based on the data, it was discovered that Arabic is the most dominant language, with a percentage of nearly 58%. While Arabic and German account for more than 55% of the total, Arabic-English bilingual pattern appears on 2.6% of all signs (Table 3).

Table 3

The percentages of Arabic concurrences with other languages

Arabic + German	German + Arabic	Arabic + English
42 (55.2%)	28 (36.8%)	2 (2.6%)



Figure 6. The combination of Arabic with other languages

In Figure 6a, Arabic is on the right, and English is on the left in this arrangement. Both Arabic and English are parallel. The use of Arabic shows its transcription of the English part (Land = لاند) instead of its translation. The word "land" in Arabic should be translated with "أرض." It could be interpreted as a message reflecting the balanced dominance between the targeted "inside" Arab customers and the "outside" Arab customers.

In Figure 6b, the use of colorful fonts combined with different sizes of inscriptions decorates windows. Latin and Arabic scripts are presented on the sign on the windows and upfront store. The shop's name is mainly written in German (Dost Markt) using dominant big red fonts. The detailed information on the products sold is given in German and Arabic in the same way, order and parallel. However, the Arabic writings in the middle window seem to be more predominant as a whole for the white colors used.

In Figure 6c, the order of languages is telling, with English first, i.e., the name of the restaurant (Brothers Café & Bakery), German next and Arabic is put at the bottom. The fonts used to share something in common, namely using white color, as well as the font types of the Latin writing. This order of Arabic reveals the assumptions about the status of language users in this setting.

The data indicate the dominance of Arabic over other languages, including German, as the country's official language. In this case, Arabic shapes the public

perception of language use in the Leipzig area. Arabic in this area shows two meanings at once, namely indexical and symbolic. Indexically, Arabic is the majority and dominant language in the zone. The use of Arabic along the way has significant meaning as a sign that a large Arab community lives in the area. Thus, the choice of Arabic became a medium to bring closer ethnic relations among them. From a symbolic point of view, Arabic has been the language of Islam since the Qur'an was revealed in Arabic; thus, there is a strong bond between Islam and Arabic (Alomoush, 2015). For this reason, non-Arab Muslims are possibly also attached to the Arabic language.

The use of Arabic signs in shops can provide evidence to the public or prospective buyers of the status of the shop owner, that is, to inform that the owner of the shop containing Arabic writing is potentially a Muslim. Thus, Arabic is often associated with Islam. For example, the word "halal," inscribed in Arabic or Latin, is often found in several food shops. It informs the clients that the stores provide food suitable for Muslim consumption. Muslims in the area thus do not have to worry about the quality of the food or its derivative products. It, of course, may result in ease for the public.

The Commodification of the Arabic Language

Based on the data analysis, the Arabic language is commodified in Leipzig's Eissenbahnstrasse by using *halal* as a commodified branding, attempting the Arabization of German, and creating the

social prestige of the Arabic language learning in the area.

“Halal” Branding: The Impact of the Commodification of Arabic

Some shops in Leipzig’s Eissenbahnstrasse display a unique sign in their shops using the word **حلال** “halal.” The word “halal” (written in Arabic or Latin) commonly co-occurs with German expressions. The accompanying German expressions are in the form of a description or information about the product or goods being sold that are considered “halal” (see Figure 7). In addition to using German, shops place the word “halal” alongside other English words (for example, halal land).

“Halal” labeled items are generally not available in mainstream supermarkets in Germany. Only a few stores are displaying this expression in common street areas. The word “halal” in Arabic denotes a food label allowed to consume in an Islamic

way. In common parlance, “halal” refers to meat slain in accordance with Islamic dietary standards, which can be traced back to the verses in the Quran. In non-Muslim countries, “halal” appears to symbolize a religious brand indicating that a product fulfills the dietary needs of a specific group of followers, i.e., Muslims.

In the context of the European food production sector, however, “halal” as it is employed does not correspond to the religious meaning of the word, nor does it translate well (Salim & Stenske, 2020). Islamic legal experts also state it in their explanation of the term. Therefore, “[L]abeling products as *halal* is not exclusively a religious act- it is also a commercial activity pursued by religious organizations as well as by secular companies, for-profit” (Raza, 2018, p. 3). In Germany, the “halal” label’s dual use might create issues of religious authority, legitimacy, and trust among the parties involved (Raza, 2018).



Figure 7. Stores with “halal” label

Hence, “halal” is used to attract Muslim clientele and people who want ‘high’ quality products since “halal” items should fulfill certain criteria for the raw materials and the processing of the materials. Hence, by putting a “halal” label in the stores, the store’s owner has a more significant opportunity to get more customers from different ethnic, religious, and other social backgrounds. A large amount of use of “halal” in shops in Leipzig commercial areas means tremendous efforts to generate more income for the store owners, which also means more significant tax for the government. Hence, the use of “halal” originating from the Arabic language constitutes the commodification of the Arabic language through the “halal” label.

The “McDonaldization” Germany vs. Arabization Germany. Several LL studies on shop signs show the dominance of English and its use in public spaces in numerous countries (for example, Alomoush, 2021b; Nikolaou, 2017; Romero et al., 2019). English, in this case, becomes the lingua franca that bridges locality and globalization. As a result of globalization, “McDonaldization” is frequently connected with the English language by numerous academics in LL studies. For example, Gorter (2006) contends that the McDonaldization of the LL is reflected in the English language’s growing space. Orman (2009) continues by saying that English is purportedly ideal for communicating the values of industrial pollution, consumerism, global capitalism, and imperialism, or what some writers refer

to as McDonaldization. However, as seen in the data, this study discovered a shift in dynamics and the transition of what so-called “McDonaldized” environment into a commodified Arabic space.

Comparing Arabic with English, the use of English in public signs, especially commercial publicity, has been attributed to “modernity, internationalism, and technological progress,” as pointed out by Gorter (2013, p. 202). Because of these symbolic links, many researchers identify English as a commodified language at the expense of native languages. Using the commercial sector in Leipzig’s LL, this study demonstrates that Arabic may be commodified in specific ways. Arabic (see Table 2 and Table 3) is mostly used to attract the eyes of pedestrians and visitors who are mostly from the Middle East in the district. Arabic is portrayed as a language commodification in the LL of Leipzig’s Eisenbahnstraße of a multi-ethnic area.

Manipulating Arabic Learning Environment for Selling Products. It has been shown in previous studies that the dominance and commodification of language in an area may have detrimental consequences. One is local language contestation and negative attitudes toward the dominant language, including a few examples. Moreover, according to Guo et al. (2020), “The spread of powerful languages in new regions often leads to local opposition, creating social injustice and threatening individual language rights” (p. 11). The exact reverse occurred in

this research, and it is worth noting. The commodification of Arabic may have a considerable beneficial influence on the economy. The commodification of Arabic in commercial signage influences Arabic learners by providing them with an authentic linguistic context. Exposure to Arabic, ubiquitous in the form of LL along Eisenbahstrasse street, allows purchasers to communicate Arabic with merchants, increasing their purchasing power.

It was a personal experience from one of the buyers from Indonesia. Every time he went into a store that had Arabic signs on the shop, he assumed that the store owner was an Arab. He attempted to communicate with the vendor in Arabic instead of German in purchasing and selling transactions. The following points contribute to his decision to communicate in Arabic: (1) practicing Arabic with native speakers, (2) knowing that he has the same socio-religious identity connection, and (3) feeling more comfortable negotiating in Arabic. These are all critical factors in learning Arabic. Knowing that their customers are keen to practice Arabic when communicating with them during the transaction, the shop owners become more enthusiastic in responding to them using Arabic. They create special bonds between themselves through the use of the Arabic language.

DISCUSSION

The findings of this study indicate that Arabic does not always have a symbolic function, but it is also used in an indexical form. This finding is in line with what

has been discussed by Nikolaou (2017). According to Nikolaou's findings, there is a distinction between the use of indexical and symbolic language for store signage in his research. In some cases, a foreign language may indicate the owner's ethnicity, attracting people of the same ethnic group or speaking the same language. In this situation, the language is indexical. On the other hand, symbolic choice seeks to reflect something everyone associates with a language; this is frequently the case for restaurants that serve Italian cuisine or locations that use English because of its widespread link with modernity. Italian restaurants are often not owned by Italians; rather, the language is only used as a descriptor for the style of cuisine the establishment offers. Similarly, English is associated with modernity because of its historical significance.

Similarly, Arabic does not reflect the language of Islam, as this language is generally perceived. As mentioned by Alomoush (2015), Arabic, by the majority, is considered a religious language, a sacred language, and the language of Islam. Rather, the use of Arabic in most of these shops, as Nikolaou (2017) explains, represents the presence of an Arab ethnic or community in the area. By chance, the Arabs of this area are majority Muslims.

The use of "halal" branding in this study, considered a commodification of the Arabic language, differs from the conclusion Said and Rohmah's (2018) study made. They did not see the use of "halal" in some restaurants in Sevilla as the commodification of the *halal* branding but rather as a symbolic

marker of collective identity as Muslims. Indeed, the previous researchers admitted that a commercial aspect was similar to that contained in the tourism places in the commercial sign cluster. However, the need to sell foods using Arabic outside tourist places, including the “halal” term, is not predominant. In Said and Rohmah’s (2018) study, the commodification of the Arabic language only exists in commercial sign clusters, including tourist places and their vicinities.

Despite the difference in seeing the word “halal” in restaurants or other food stores, the current study is in agreement with Said and Rohmah (2018) in that when Arabic inscriptions are greatly used it reaches the scale of industrialization; it is then commodified for the sake of money-making industry. The current researchers further elaborate on the notion of the commodification of Arabic in heritage sites previously discussed by Said and Rohmah’s research in Andalusia, Spain.

That Arabic coexists with other languages in Leipzig LL may result from the fact that the city of Leipzig, Germany, has become a multiethnic and multilingual due to the inflow of migrants and refugees from all over the world (Dütthorn, 2017; Power & Herden, 2016). Arabic, Berber, Turkish, Kurdish, Hindi, Punjabi, and Chinese are essential immigrant languages. Pertaining to this issue, Gorter (2009) stated that multilingualism could occur for various reasons. One reason is historical or political movements, such as imperialism or colonialism. In this situation, the spread

of particular languages, such as Spanish, throughout Latin America resulted in the coexistence of many languages. Economic movements, such as those associated with migration, also contribute to this. Due to the weakness of some regions and countries’ economies, population flows occur, creating multilingual and multicultural people in the receiving countries. In addition, the increased connectivity between regions of the world and the proliferation of universally accessible languages could affect multilingualism. It is true for the advancement of new technologies, as well as for science. English is the primary language of international communication, and millions of individuals also speak other languages. Another reason is a sense of social and cultural belonging, as well as a concern for preserving and revitalizing minority languages. This fascination emerges in settings where two or more languages coexist and are important for everyday communication. Furthermore, education also plays a pivotal role as almost every country’s curriculum includes second and foreign language teaching. Lastly, religious movements result in the diaspora of individuals.

With regard to the issues mentioned above, what has occurred to LL in Leipzig indicates that the economics and religious movements may be the two primary factors driving the domination and commodification of Arabic in Leipzig, in particular, and Germany as a whole, as demonstrated by the case of Arabic in the commercial LL of Leipzig. The dominance of one language

in the LL demonstrates the strength and position of a majority or strong minority group over other communities. For example, higher-status languages employed in official areas are more likely to be found on public signs than lower-status languages. According to Ben-Rafael et al. (2006), “LL analysis allows us to point out patterns representing various methods in which people, organizations, associations, institutions, and government agencies cope with the game of symbols within a complicated reality” (p. 27). Therefore, the LL denotes linguistic diversity in a specific area. A multilingual situation is indicated by the use of bilingual or multilingual signs.

Meanwhile, Leeman and Modan (2009) found out that the commodification of the Chinese language in Washington DC has resulted in the lesser use of Chinese as a means of communication and social interaction, and at the same time, put it as a symbolic element in the commodified landscape. Hence, the economic gain has negatively impacted social interaction among the speakers of the commodified language. Dissimilar to this, Guo et al. (2020) conclude that commodifying Chinese as a second language in Thailand has offered better educational opportunities for learners from underprivileged families. Thus, it presents a more positive impact on the commodified area. Informed of the two different directions of the impact of the commodification of language, research aimed to see how the commodification of Arabic affects Leipzig’s Eisenbahnstraße public area is needed. However, the

current research does not uncover this phenomenon. Therefore, it is suggested that the next research can portray how the commodification of Arabic affects the communication and social interaction of the speakers of Arabic in addition to the welfare of the inhabitants of the area.

CONCLUSION

According to Van Mensel et al. (2016), LL research may help us understand the linguistic characteristics that define post-modern civilization’s multidimensional, hyper-varied multilingual contexts, such as hybridity and multimodality. Furthermore, the LL may be regarded as a set of artifacts of human social action, providing us with an empirical indicator for mapping and understanding both short and long-term changes in language and society, as well as contestation occurrences. Using the LL pictures of Leipzig’ Eisenbahnstraße, this study has demonstrated the color of Arabic commodifying the LL in a unique area of language contestation. In addition, the results of this study imply that language commodification, rather than typically being associated with sacred language and religious status, can be a contributing factor in promoting multilingual availability and social sustainability in certain circumstances.

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The Impact of L2 Vocabulary Knowledge on Language Fluency

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ABSTRACT

While there has been ample research on the relationship between vocabulary knowledge (breadth and depth aspects) and speaking proficiency, very little attention has been given to the correlation between the four aspects of L2 lexical knowledge (receptive\productive\ breadth\depth) and L2 speaking ability, and none has focused on the moderation effect of L2 vocabulary fluency in speaking capability. The current research recruited 312 Chinese university students as participants. It used the Structure Equation Model (SEM) to assess the relative effectiveness of the four aspects of L2 lexical knowledge and the predictive power of the overall L2 lexical knowledge in L2 speaking. It also ascertained the moderation effect of L2 vocabulary fluency by using Ping's Single Product Indication Method. Results showed that of the four aspects of L2 vocabulary knowledge, productive vocabulary depth contributed the most to speaking skills. The productive vocabulary breadth ranked second, with receptive vocabulary breadth and depth showing less contribution to speaking proficiency. Regression analyses indicated that overall L2 lexical knowledge explained 47% of the variance in speaking. On the basis of these research findings, educational implications are further discussed, then limitations are identified.

Keywords: Moderation effect, speaking proficiency, structure equation model, vocabulary fluency, vocabulary knowledge

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INTRODUCTION

Vocabulary knowledge is the foundation of language capability and development (Nation, 2013). Furthermore, it is widely believed that successful language learning is inseparable from lexical knowledge, which can powerfully predict learners' language ability (Qian & Lin, 2020). Therefore, if

the learners' language proficiency improves, their vocabulary ability must increase because it effectively strengthens the memorization of newly learned words during listening, speaking, reading, and writing (Laufer, 2013).

Lexical knowledge is also a powerful predictor of academic performance and successful language ability (Laufer, 1997). For example, according to Stæhr (2008), vocabulary size accounts for 72% variance in reading, 39% in listening, and 52% in writing. Therefore, studying the association between lexical knowledge and language capability has attracted global attention. Over the past 20 years, many scholars have paid close attention to the association between lexis and reading (Cheng & Matthews, 2018; Li & Kirby, 2015; Nation, 2001; Qian, 1999, 2002) and listening (Cheng & Matthews, 2018; Matthews, 2018; Nation, 2001; Stæhr, 2008, 2009), and writing (Choi, 2017; Kilic, 2019; Olinghouse & Wilson, 2013; Webb, 2005) while a few researchers focused on the correlation between lexis and speaking ability (Alharthi, 2020; Koizumi & In'name, 2013; Uchihara & Saito, 2019). Further, few studies have ascertained the correlation between lexis and speaking in a Chinese setting. No previous studies have used vocabulary fluency as a moderation factor to explore the correlation between vocabulary and oral ability. Therefore, it would be of significance to focus on the effect of lexical knowledge on oral proficiency and the moderation effect of vocabulary fluency.

Problem Statement

Chinese university students do not have a real language learning environment and learn English only through classroom teaching. As a result, it makes it difficult for Chinese ESL/EFL learners to gain proficiency in a foreign language, which leads to a piece of insufficient vocabulary knowledge and speaking ability.

Specifically, Chinese university students do not clearly understand what effect different dimensions of vocabulary knowledge can have on speaking and the extent to which speaking proficiency can be predicted by different dimensions of vocabulary knowledge (Cheng & Matthews, 2018; Zhang & Zhang, 2020).

In addition, Chinese university students do not know the actual value of fluency development in speaking.

Research Objectives

The current study investigates the relationship between L2 vocabulary knowledge and Chinese university students' speaking proficiency. The research objectives for this study are to ascertain the effectiveness and the predictiveness of the four dimensions of vocabulary knowledge in speaking, to investigate the moderation effect of vocabulary fluency on the correlation between the four dimensions of L2 vocabulary knowledge and speaking proficiency, and to provide insights on vocabulary and L2 teaching and research for the future.

THEORY AND HYPOTHESIS

Vocabulary Knowledge

Vocabulary is complicated and multidimensional. It is not easy to hold its essence because of the complexity of lexical knowledge (Schmitt, 2014). Some researchers have proposed different frameworks to avoid confusion and multiple dimensions of vocabulary knowledge. Generally speaking, breadth and depth are the two basic dimensions of lexis (Milton, 2009; Qian, 1999; Read, 1993, 1998, 2000). Vocabulary breadth refers to the number of words a learner knows in a particular language, while vocabulary depth refers to the degree to which vocabulary has been mastered (Qian, 2002; Read, 2000, 2004; Zhang & Zhang, 2020). Nation (2013) argues that control of a word relates to knowledge of “form”, “meaning”, and “usage” (p. 39). The theoretical basis for researchers to study vocabulary depth comes from the nature of multiple components of lexis (Schmitt, 1998, 1999; Webb, 2005).

Receptivity and productivity are two aspects of both vocabulary and language. For lexis, receptive vocabulary consists of items that can only be activated by hearing or seeing their forms, while other words can activate productive vocabulary because it has many incoming and outgoing links with other words (Meara & Jones, 1990). For language, receptive skills are reading and listening; productive skills are speaking and writing. Nation (2013) noted that receptive vocabulary use involves perceiving the form of a word when listening or reading and retrieving their meaning, while productive

vocabulary use involves wanting to express meaning through speaking or writing and retrieving and producing the appropriate spoken and or written word form (p. 47).

Vocabulary fluency generally means that learners become more and more fluent in using items they already know. In this study, vocabulary fluency is defined as the speed of word retrieval, a crucial factor influencing L2 learners' language skills performance which listening, reading, speaking, and writing (Segalowitz & Hulstijn, 2005). Schmitt (2010) believes there is an urgent need to process words quickly enough to communicate smoothly; that is, the speaker needs to prepare appropriate vocabulary to improve oral fluency, and the listener needs to understand what the speaker says with sufficient word recognition speed. Segalowitz and Freed (2004) reported a positive correlation between vocabulary access speed and spoken language. Nation (2013) emphasized the importance of fluency and noted that fluency training should account for 25% of learning time in and out of class. Although vocabulary fluency plays a vital role in language performance, there is very little research on how it relates to speaking proficiency.

Based on vocabulary breadth and depth and receptive and productive vocabulary mentioned above, four aspects of vocabulary can be concluded: receptive breadth and depth, and productive breadth and depth. The first two aspects have attracted many researchers' attention, and the last two, especially the last, have received little attention. Therefore, this study will use these

four aspects of vocabulary as four constructs of the structural equation model to explore their correlation with speaking.

Vocabulary Knowledge and Speaking Proficiency

Many researchers believe that lexical knowledge can effectively predict reading, listening, and writing ability (Alharthi, 2016; Cheng & Matthews, 2018; Choi, 2017; Dabbagh & Enayat, 2019; Milton et al., 2010; Qian, 1999, 2002; Stæhr, 2008, 2009; Wolf et al., 2019). However, although the link between lexical knowledge and L2 language ability has been well established, there are relatively few studies on the correlation between lexical knowledge and oral ability (Schmitt, 2014).

Based on 224 Japanese English beginning and intermediate learners, Koizumi and In'nami (2013) ascertained the extent to which L2 speaking ability can be predicted by the retrieval speed, size, and depth of L2 lexis. The results revealed that the proportion of speaking performance was explained by size (63%), depth (60%), and speed (28%), meaning that vocabulary size, depth, and retrieval speed could account for a substantial ratio of variance in speaking ability, but the explanatory power of the retrieval speed of lexis is the lowest among the three dimensions. Milton et al. (2010) verified the association between vocabulary size, including orthographic and phonological size, and speaking proficiency through an oral interview of 30 English learners with intermediate to relatively advanced levels. The results indicated

that the correlation between orthographic vocabulary size and speaking proficiency approached $r = 0.35$, and phonological vocabulary size was $r = 0.71$, indicating that orthographic vocabulary breadth has only a moderate explanatory power for speaking proficiency. In contrast, aural vocabulary size has high explanatory power for speaking proficiency. Therefore, it is reasonable to expect that vocabulary test results based on listening or dictation in a limited time should be one of the criteria for evaluating speaking proficiency. Uchihara and Clenton (2018) ascertained that the degree to which L2 speaking ability could be predicted by receptive vocabulary size based on the testing scores of 46 international students at an L2 advanced level who took part in a receptive lexicon task (Meara & Miralpeix, 2016) and a spontaneous oral picture narrative task. The findings showed that learners with large vocabulary sizes were not proportional to the production of complex L2 words when speaking.

Uchihara and Saito (2019) surveyed the extent to which manifold dimensions of spontaneous speech production could be predicted by productive lexical knowledge L2 of learners based on 39 EFL participants with different L2 levels by completing a productive lexicon task (Lex30) for examining comprehensibility, accent and fluency. The results indicated that the productive lexicon grades correlated moderately with L2 fluency ($r = 0.34$) and low correlation with comprehensibility ($r = 0.27$) but a slight correlation with an accent ($r = 0.03$). Finally, Alharthi (2020), interviewing 18 Saudi Arabia sophomore

university learners of English, investigated the degree to which productive lexical knowledge correlates with and predicts speaking ability. The results demonstrated that the correlation order of different lexical frequency levels with speaking is 3,000-word level ($r = 0.58$), 2,000-word level ($r = 0.49$), 5,000-word level ($r = 0.39$), academic word level ($r = 0.30$) and 10,000-word level ($r = 0.23$) on the interview task, showing that productive vocabulary has the most significant effect on learners with 3000-word frequency level.

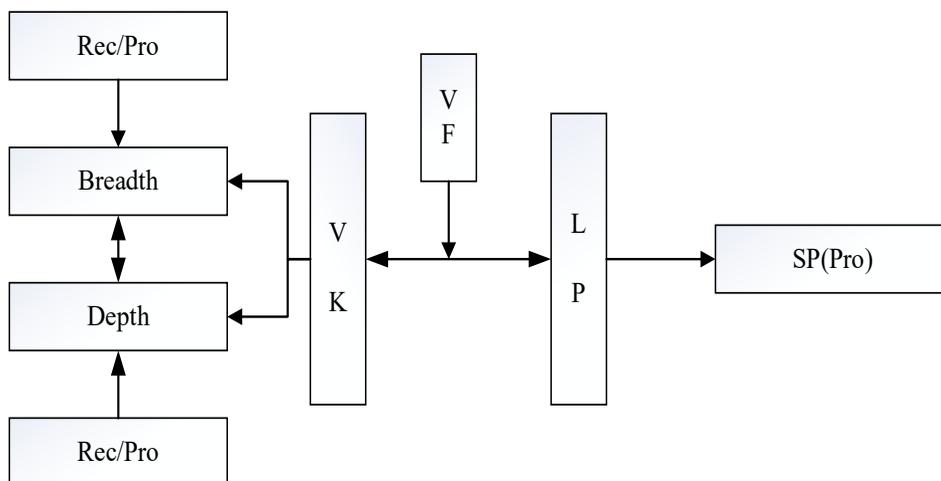
The previous studies found that most researchers focused on the association between vocabulary size only and speaking ability, some examined the correlation between vocabulary depth or speed, and some took vocabulary size, depth, and processing speed. However, there is no study on the correlation between four aspects of lexical knowledge and overall speaking proficiency

on the basis of large samples. Furthermore, the literature review found no research on the moderation role of vocabulary fluency on the relationship between L2 lexicons and speaking. Therefore, it is very necessary to bridge this gap.

Study Hypothesis and Research Questions

The current research aims to explore and discuss the effectiveness and predictiveness between the four aspects of lexical knowledge and L2 speaking capability and ascertain the moderation effect of vocabulary fluency on the relationship between L2 lexical knowledge and speaking proficiency.

This article quantitatively analyzes the relationship between the four aspects of L2 vocabulary knowledge and speaking ability, as is represented in the framework shown in Figure 1.



Note. Rec=receptive; Pro=productive; VK=vocabulary knowledge; LP=language proficiency; VF=vocabulary fluency, SP=speaking proficiency

Figure 1. A concept framework

Based on the conceptual framework, three questions are proposed.

RQ 1. To what extent can the four aspects of L2 vocabulary knowledge be correlated with speaking proficiency?

RQ 2. To what extent can speaking proficiency be predicted by the four aspects of L2 vocabulary knowledge?

RQ 3. Does vocabulary fluency have a moderation effect on speaking proficiency?

Based on the research questions above, four research hypotheses have been proposed.

H1: Receptive vocabulary breadth and depth have a positive effect on speaking.

H2: Productive vocabulary breadth and depth have a positive effect on speaking.

H3: Vocabulary knowledge has substantial predictive power on speaking.

H4: Vocabulary fluency has a moderation effect on the relationship between vocabulary knowledge and speaking.

METHOD

Participants

The participants were 312 male and female Chinese students from a teaching education university in southeastern China. They have studied English for almost ten years. The average age is 20.5 years old, and they have had no study or life experience overseas. Most of them passed CET4 (College English Test Band 4), and some students passed CET6 (College English Test Band 6) which should identify Chinese university students with a command of more than 4500 and 6000 items. CET4 and CET6 are used to check the English level of Chinese university students.

In addition, four experienced EFL teachers participated in the study as raters. They had about 20 years of English classroom teaching experience, and two had experience studying abroad.

Instruments

Test for Receptive Vocabulary Breadth (VLT). In this study, the measurement instrument of receptive vocabulary breadth is the version designed by Schmitt et al. (2001) with 5 frequency levels: 2,000, 3,000, 5,000, 10,000, and academic vocabulary. This version of Schmitt was chosen as the Cronbach alpha coefficient approached .77, indicating the high validity of the instrument.

Example of VLT item

1. *consent*
2. *enforcement* _____ *total*
3. *investigation* _____ *agreement or permission*
4. *parameter* _____ *trying to find information about something*
5. *sum*
6. *trend*

Test for Receptive Vocabulary Depth (VDT). In the current study, the Word Associate Test designed by Read (1998) was used to measure the receptive depth of lexical knowledge, here called VDT, to unify the terms in this study. The test form comprises a target word and eight option words, four of which are interference items. From the perspective of testing, it was proved by Read (1998) to be reliable and valid. Example of VDT item:

adjust

(A)alter(B) belong(C) correct(D)modify	(E)continent(F) interested(G) germ(H)television
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Test for Productive Vocabulary Breadth (PLT).

The productive vocabulary breadth test is Nation’s Productive Level Test (1999) which has been widely employed and recognized (see Laufer & Nation, 1999; Schmitt et al., 2001). The participants are expected to fill in the blank in the test based on the lexical clue provided.

Example of PLT item:

Soldiers usually swear an oa of loyalty to their country.

Test for Productive Vocabulary Depth (PVDT).

A test tool for productive vocabulary depth (PVDT) was used based on the “A Definition Completion Test (DCT)” proposed by Read (1995). First, the participants are required to define the given vocabulary and make a sentence. Then, it is a conscious meta-language performance to search for the vocabulary in the semantic space of the participant’s brain and check their vocabulary ability in word parts, association, and collocation.

Example of PVDT item:

advent
Definition:
Example:

Test for Vocabulary Fluency (VFT).

A full passage dictation test derived from IELTS Listening materials was used to measure vocabulary fluency, which utilizes

the aspects of phonetics, morphology, and pragmatism related to lexis (see Appendix 1). It requires the participants to complete the missing word in a limited time as they are listening to the passage, examining the speed of retrieving vocabulary, that is, vocabulary fluency, which can be reflected by dictation because of the fleeting characteristics of listening. As Milton et al. (2010) showed, phonological vocabulary size strongly correlated with speaking. Since it is not mainly a spelling test, the minor spelling errors were not completely deductible (Matthews et al., 2017).

Example of VFT item:

Welcome to all of you...can everybody see and hear me?. Good...I’m Sally, your _____ for this _____ of the Bicenteenial Park...I hope that you’re all _____ your most _____ and that you can keep up the _____. So let’s get under _____ on our tour around this _____.

It should be answered in the following way.

Welcome to all of you...can everybody see and hear me?. Good...I’m Sally, your guide for this tour of the Bicenteenial Park...I hope that you’re all wearing your most comfortable shoes and that you can keep up the pace. So let’s get under way on our tour around this wonderful park.

Test for Speaking Proficiency.

IELTS speaking test mode is used to measure the Speaking test in which four examiners evaluate each candidate whose final score of the candidate is the average of the four

examiners. There are two steps for testing the participants' speaking proficiency. Step 1: The participant is given a task card with captions and asked to discuss a particular topic. The participant has 1 minute of preparation time, and if they wish, they can take some notes and speak within one to two minutes. Step 2: The examiners and the examinee discuss some issues related to the topic of Part 2. The discussion lasts between two and three minutes.

Example of Test for Speaking Proficiency item:

Part 1

Describe a restaurant that you enjoyed going to.

You should say:

*where the restaurant was
why you choose this restaurant
what type of food you ate in this restaurant and explain why you enjoyed eating in this restaurant.*

Part 2(omit)

Procedure

Data Collection. Six tests were arranged to be conducted in three lecture halls. The first five tests were vocabulary, and the last was the speaking test. Three hours were spent completing all vocabulary tests, with two ten-minute breaks. Speaking test data collection occurred across four days, with each speaking test taking approximately six minutes.

Scoring.

First type: One point was awarded for each correct response for the first three vocabulary measurements. Receptive vocabulary breadth had five frequency levels 2000, 3000, 5000, 10 000, and academic vocabulary. Each level has 30 points, totaling 150 points. Receptive vocabulary depth has 40 target words, and each word has 4 answers, so a total score is 160 points. Productive vocabulary breadth consists of the same five frequency levels as receptive vocabulary breadth. Each level has 18 points, totaling 90 points.

Second type: For productive vocabulary depth, participants were required to offer a definition and make a sentence for each of the 20 words. Each word has a total of 4 points, 2 points for a definition, 2 points for a sentence, and a total score of 80 points.

Third type: The total points of the speaking test are 100 over four categories used to contribute to the holistic grades of the speaking tasks: fluency and coherence (25%), lexical resource (25%), grammatical accuracy (25%), and pronunciation (25%) (see Appendix 2). Four trained examiners evaluated each candidate, and the final score of each candidate was the average of the four examiners. For the rating criteria of the speaking tasks, it was believed that the overall scoring standard has strong operability and was easier to master in line with the large-scale oral test.

Four trained teachers also evaluated all vocabulary test papers. Since all the vocabulary testing items were objective questions and the answers to every testing item were offered, no disputation existed in the assessment process.

Data Analyses. In the present study, four aspects of lexical knowledge were independent variables. Speaking as the dependent variable, and vocabulary fluency

was the moderation variable. AMOS24.0 and SPSS24.0 were used to analyze the data for statistical analysis and inferences.

RESULTS

Descriptive Statistics

A general profile of participants' performance in each test includes the range, maximum score, and mean and standard deviation of their scores (Table 1).

Table 1

Descriptive statistics

Test	MPS	Range	Mean	Std. deviation	N
A1	30	25	20.43	4.822	312
A2	30	30	18.40	6.607	312
A3	30	30	14.04	7.946	312
A4	30	30	12.88	8.087	312
A5	30	30	12.56	8.487	312
B1	35	32	19.92	5.602	312
B2	38	34	18.71	6.229	312
B3	40	40	18.88	6.327	312
B4	40	40	18.96	7.193	312
C1	18	18	10.07	4.361	312
C2	18	18	9.54	4.745	312
C3	18	18	8.79	5.148	312
C4	18	18	8.48	5.601	312
C5	18	18	7.86	5.470	312
D1	20	20	10.43	4.708	312
D2	20	20	10.27	5.144	312
D3	20	20	9.55	5.158	312
D4	20	20	9.19	5.698	312
F1	20	20	10.54	4.527	312
F2	20	19	10.77	4.067	312
F3	20	20	10.21	4.509	312
F4	20	20	9.82	5.513	312
S1	25	23	18.22	4.160	312
S2	23	19	12.97	2.933	312
S3	25	25	11.76	4.635	312
S4	23	21	11.44	3.884	312

Note. MPS = maximum possible score

In Table 1, A1–A5 stand for 2000, 3000, 5000, 10000 and academic vocabulary of receptive vocabulary breadth; B1–B4 stand for four groups of receptive vocabulary depth; C1–C5 stand for 2000, 3000, 5000, 10 000 and academic vocabulary of productive vocabulary breadth; D1–D4 stands for four groups of productive vocabulary depth; F1–F4 stand for four groups of vocabulary fluency; and S1–S4 stand for four speaking tasks: fluency and coherence, lexical resource, grammatical accuracy, and pronunciation.

Respective and productive vocabulary knowledge are independent variables of hypotheses, vocabulary fluency is a moderation variable, and speaking stands for the dependent variable. Descriptive statistical analysis is the statistical description of data about all research variables. Smaller standard deviations mean that these values are closer to the mean, indicating that the data collected in this research is more accurate (Table 1). In order to further verify the reliability and validity of the collected data, confirmatory factor analysis was used, as shown below.

Confirmatory Factor Analysis

Confirmatory factor analysis was conducted to ascertain the pros and cons of the data. Item reliability, composite reliability, and convergence validity were first calculated based on uncorrelated variables (Table 2).

According to Fornell and Larcker (1981), the composite reliability (CR) is equal to Cronbach's α , and 0.7 is

the acceptance threshold. The average variance (AVE) extracted means the average explanatory force of the observed variables' latent variables. The higher the AVE, the better the convergence validity. According to Fornell and Larcker, the ideal value of AVE is higher than 0.5, but 0.36~0.5 can also be accepted.

The non-standardization points estimation values are all positive, the z -values exceed 1.96, and the P -value is significant, indicating hypotheses are reasonable (Table 2). The standardized points estimation is factor loadings which are all higher than 0.7. SMC is the square of the factor loading. Generally, 0.36 is acceptable, and 0.5 is the ideal value. The composition reliability is above 0.8, and the convergence validity is above 0.5, indicating good data reliability.

Discriminant validity between the various variables was calculated by correlating all variables (Table 3).

The discriminant validity is the square root calculations of the average variance extraction (AVE). For example, the AVE square roots in bold are higher than other Pearson correlation coefficients (Table 3). Thus, there is good discriminating validity in the current study.

Correlation Analysis

SEM Analysis Between VK and SP. Based on the conceptual framework, a structural equation model is built and illustrated in Figure 2.

Table 2
Convergence validity

Construct	Indicator	Significance of estimated parameter			Std.	Item reliability	Composite reliability	Convergence validity
		Unstd.	S.E.	z-value				
VLT	A1	1.000			.834	.696	.909	.666
	A2	1.347	.079	16.975	.820	.672		
	A3	1.564	.097	16.134	.791	.626		
	A4	1.730	.095	18.190	.860	.740		
	A5	1.634	.104	15.640	.774	.599		
VDT	B1	1.000			.842	.709	.914	.680
	B2	1.173	.062	19.054	.888	.789		
	B3	1.084	.065	16.755	.808	.653		
	B4	1.230	.074	16.702	.807	.651		
PLT	C1	1.000			.817	.667	.893	.626
	C2	1.058	.068	15.489	.795	.632		
	C3	1.203	.073	16.451	.833	.694		
	C4	1.262	.080	15.704	.803	.645		
	C5	1.075	.082	13.168	.700	.490		
PVDT	D1	1.000			.808	.653	.883	.602
	D2	1.093	.073	14.876	.808	.653		
	D3	1.082	.074	14.672	.798	.637		
	D4	1.139	.082	13.904	.760	.578		

Table 2 (Continue)

Construct	Indicator	Significance of estimated parameter			Std.	Item reliability	Composite reliability	Convergence validity
		Unstd.	S.E.	z-value				
VFT	F1	1.000			.773	.598	.880	.596
	F2	0.913	.067	13.719	***	.616		
	F3	1.064	.074	14.370	***	.682		
	F4	1.213	.090	13.452	***	.593		
SP	S1	1.000			.843	.711	.909	.666
	S2	0.717	.039	18.290	***	.736		
	S3	1.086	.063	17.177	***	.674		
	S4	0.941	.052	18.039	***	.721		

Note. VLT = receptive vocabulary breadth test; VDT = receptive vocabulary depth test; PLT = productive vocabulary breadth; PVDT = productive vocabulary depth test; VFT = vocabulary fluency test; SP = speaking proficiency test; *** = $p < .001$

Table 3

Discriminant validity

CONSTRUCT	AVE	PLT	PVDT	SP	VFT	VDT	VLT
PLT	.627	.792					
PVDT	.681	.146	.825				
SP	.672	.472	.307	.820			
VFT	.602	.322	.214	.575	.776		
VDT	.607	.243	.179	.537	.327	.779	
VLT	.667	.182	.205	.315	.263	.180	.817

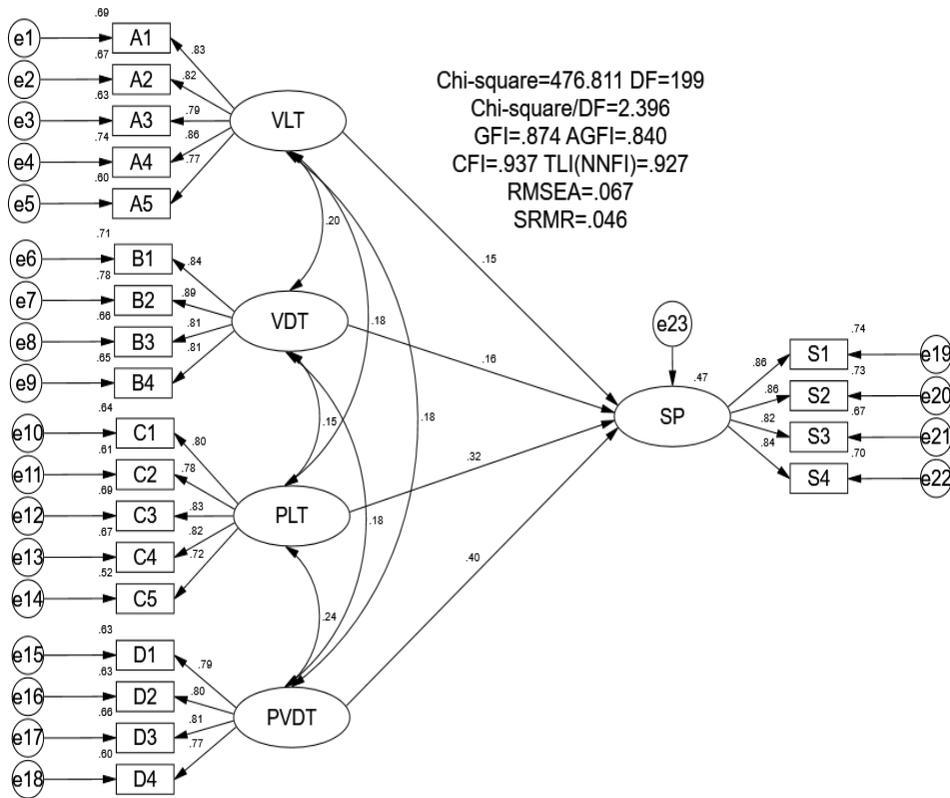


Figure 2. A research model

Figure 2 illustrates a research model of the association between the four aspects of lexical knowledge and speaking proficiency. The model shows that productive vocabulary depth has the strongest effect on speaking performance, and the regression correlation coefficient between the two is $\beta = .40$. Productive vocabulary breadth has a significant effect on speaking performance with $\beta = .32$. Receptive vocabulary breadth and depth have a lower effect on speaking with $\beta = .15$ and $\beta = .16$ respectively. Multiple regression analyses showed that overall L2

lexical knowledge explains 47% of the variance in speaking performance.

Receptive and productive vocabulary knowledge positively affects speaking, verifying that H1 and H2 are valid (Figure 2). Forty-seven percent variance means that vocabulary knowledge has substantial predictive power on speaking, indicating that hypothesis H3 is accepted, offering support for verifying the hypotheses, and answers to RQ1 and RQ2.

Based on the analysis of SEM, the model fit index was calculated (Table 4).

Table 4

Model fit

Index	Criteria	Model fit	Result
Chi-square	lower, better	476.811	
DF	higher, better	199	
Chi-square/DF	<5	2.396	meet criteria
GFI	>0.9	0.874	may accept
AGFI	>0.9	0.840	may accept
RMSEA	<0.08	0.067	meet criteria
SRMR	<0.08	0.046	meet criteria
CFI	>0.9	0.937	meet criteria
TLI(NNFI)	>0.9	0.927	meet criteria

The model fit index accords with the criterion proposed by scholars MacCallum et al. (1996), indicating that the SEM assumption is valid.

Pearson Correlations Analysis. For a clear illustration of the correlation between lexicon knowledge and speaking, more succinct data (Table 3) is shown below (Table 5).

Table 5

Pearson correlations between different variables and speaking

Study measures	VLT	DVKT	PLT	VDT
Speaking proficiency	.315***	.307***	.472***	.537***

Note. *** = $p < .001$

In the overall view, the correlation between productive vocabulary depth and speaking is the strongest with ($r = 0.537, p < .001$); productive vocabulary breadth ranks the second with ($r = 0.472, p < .001$); and the correlation between receptive vocabulary breadth and depth are ($r = 0.315, p < .001$) and ($r = 0.307, p < .001$), respectively.

Moderation Effect

The moderation variable may affect the strength of the relationship between the two variables. The moderation variable has an interactive effect. The relationship between the variables X and Y depends on the third variable. Ping's (1995) single product indication was adopted to check whether vocabulary fluency would affect the relevance of the various aspects of L2 lexical knowledge and speaking ability.

Moderation Effect of Vocabulary Fluency (VLT vs. SP). Two steps were followed to investigate the moderation effect of vocabulary fluency.

Step 2: The value obtained in Step 1 is fixed by the interaction item's factor loading and residual error. If the analysis result is significant, the interaction exists.

Step 1: Estimate the factor loading and residual of the main effect.

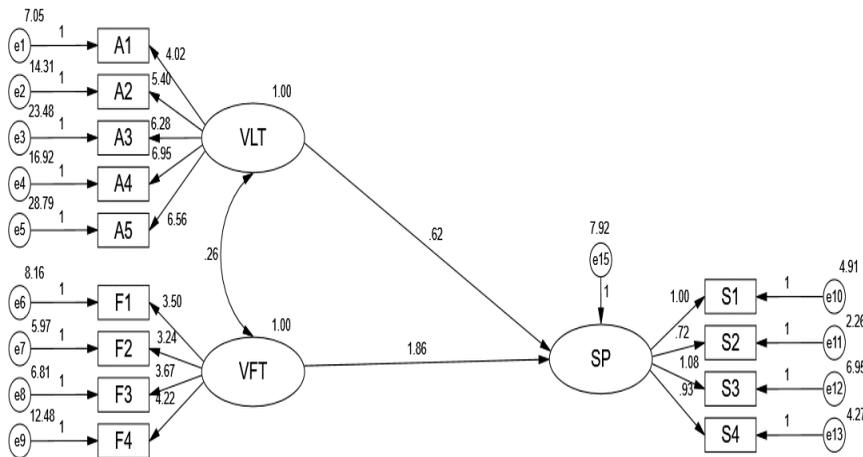


Figure 3. The main effect model

In the main effect model (Figure 3), the loading value is run out and substituted into Ping's Single Indicator Interaction, calculating the residual and loading,

which will be substituted (Figure 4) to check whether the interaction item and the endogenous variable is significant.

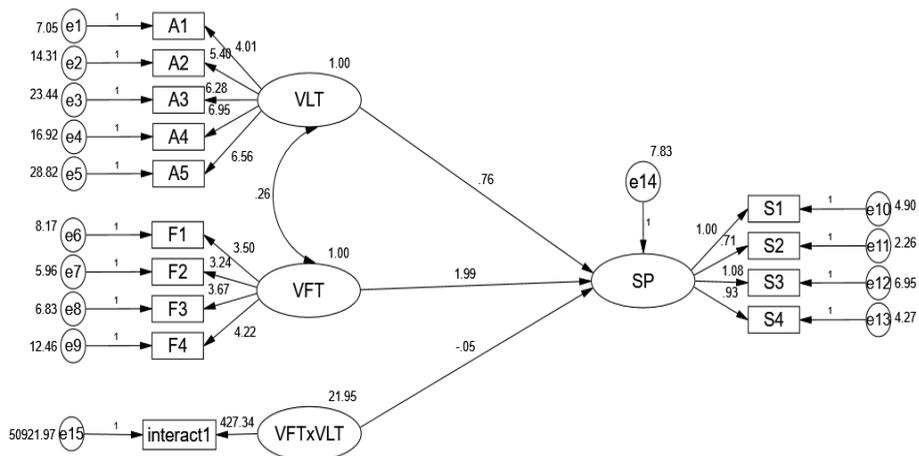


Figure 4. Non-linear setting and interaction

Table 6
Moderator of VFT on the relationship between VLT and SP

Dependent variable	Interaction	Unstd.	S.E.	z-value	P
SP	VLT	.763	.197	3.875	***
SP	VFT	1.994	.129	9.127	***
SP	MO	-.048	-.038	-1.258	.208

Note. *** = $p < .001$

The P value is not significant, so interaction does not exist, indicating that vocabulary fluency has little moderation effect on the relationship between the receptive breadth of lexical knowledge and speaking proficiency (Table 6).

Moderation Effect of Vocabulary Fluency (VDT vs. SP). Two steps were also followed to investigate the moderation effect of vocabulary fluency.

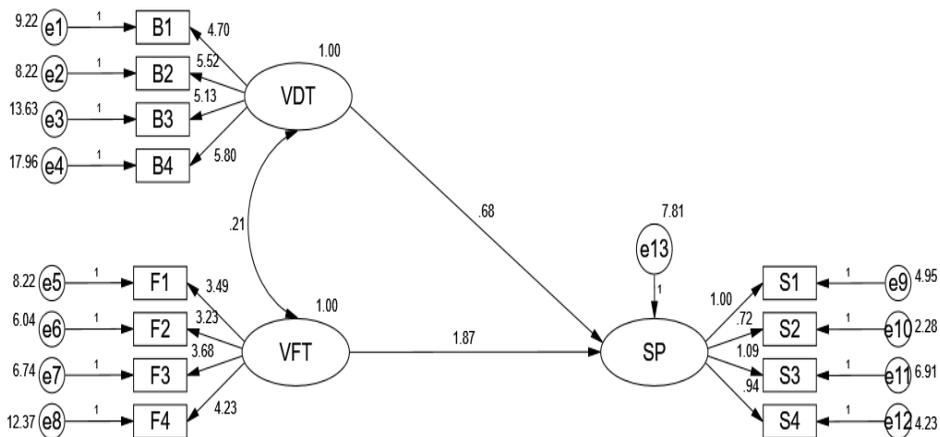


Figure 5. The main effect model

In the main effect model (Figure 5), the loading value is run out and substituted into Ping’s Single Indicator Interaction, calculating the residual and loading,

which will be substituted (Figure 6) to check whether the interaction item and the endogenous variable is significant.

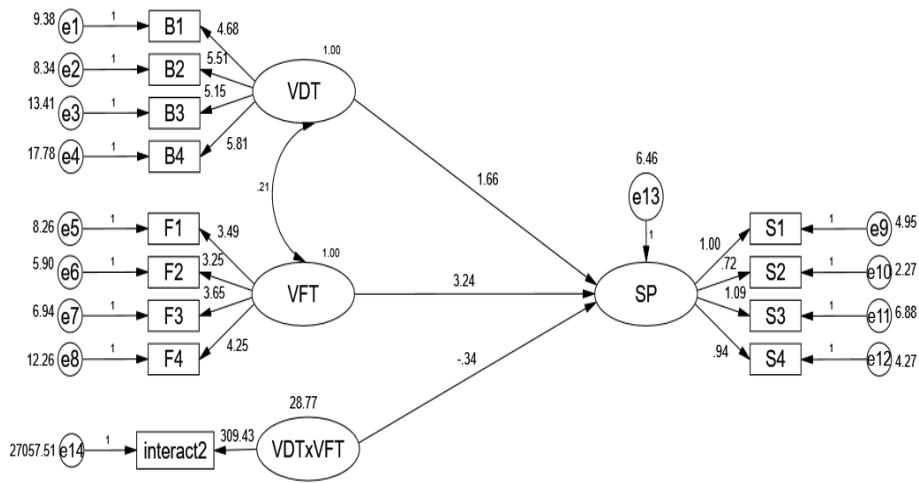


Figure 6. Non-linear setting and interaction

Table 7

Moderator of VFT on the relationship between VDT and SP

Dependent Variable	Interaction	Unstd.	S.E.	z-value	P
SP	VDT	1.664	.202	8.232	***
SP	VFT	3.242	.233	13.899	***
SP	MO	-0.337	.033	-10.088	***

Note. *** = $p < .001$

The P value is significant (Table 7). Hence, interaction exists, indicating vocabulary fluency has a significant moderation effect on the association between the receptive depth of vocabulary knowledge and speaking proficiency.

Moderation Effect of Vocabulary Fluency (PLT vs. SP). Two steps were also followed to investigate the moderation effect of vocabulary fluency.

In the main effect model (Figure 7), the loading value is run out and substituted into Ping’s Single Indicator Interaction, calculating the residual and loading, which will be substituted (Figure 8) to check whether the interaction item and the endogenous variable is significant.

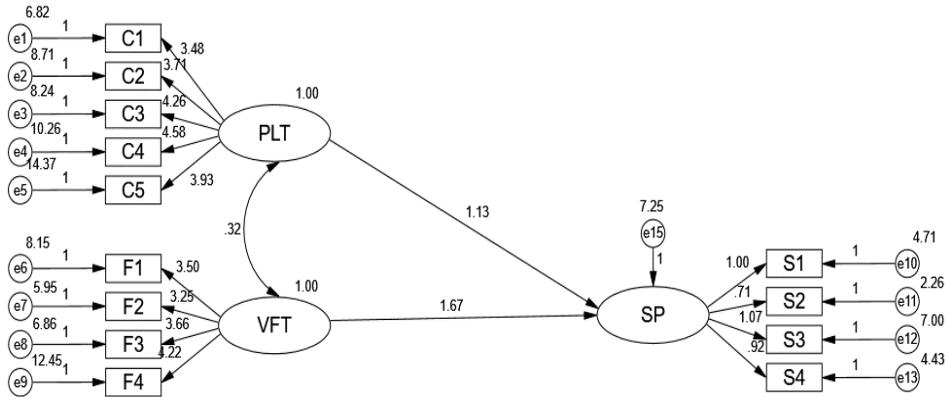


Figure 7. The main effect model

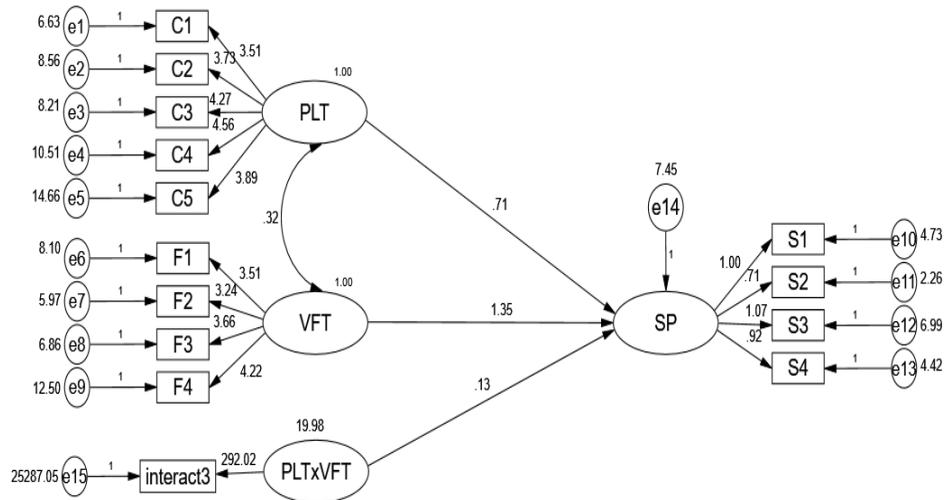


Figure 8. Non-linear setting and interaction

Table 8

Moderator of VFT on the relationship between PLT and SP

Dependent variable	Interaction	Unstd.	S.E.	z-value	P
SP	PLT	.715	.196	3.648	***
SP	VFT	1.349	.206	6.536	***
SP	MO	.132	.039	3.427	***

Note. *** = $p < .001$

Table 8 shows that the P value is significant, so interaction exists, showing vocabulary fluency has a moderation effect on the association between the productive breadth of vocabulary knowledge and speaking proficiency.

Moderation Effect of Vocabulary Fluency (PVDT vs. SP). Two steps were also followed to investigate the moderation effect of vocabulary fluency.

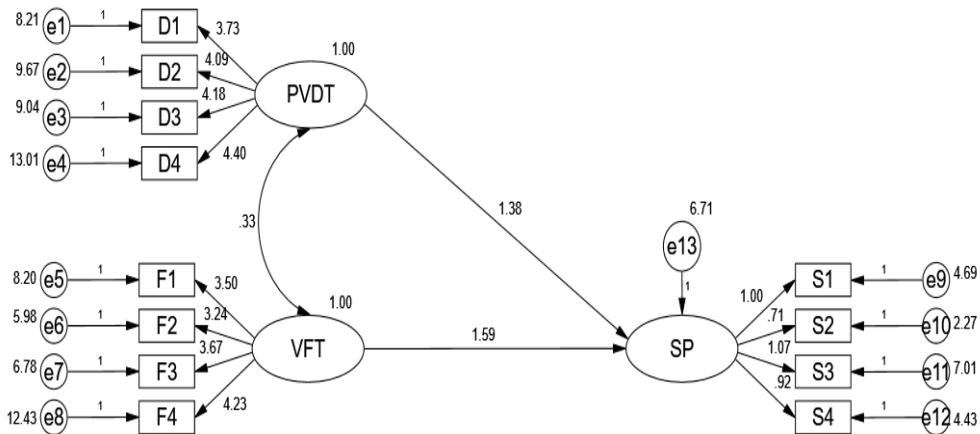


Figure 9. The main effect model

In the main effect model, as shown in Figure 9, the loading value is run out and substituted into Ping's Single Indicator Interaction, calculating the residual and

loading, which will be substituted into the position shown in Figure 10 below to check whether the interaction item and the endogenous variable is significant.

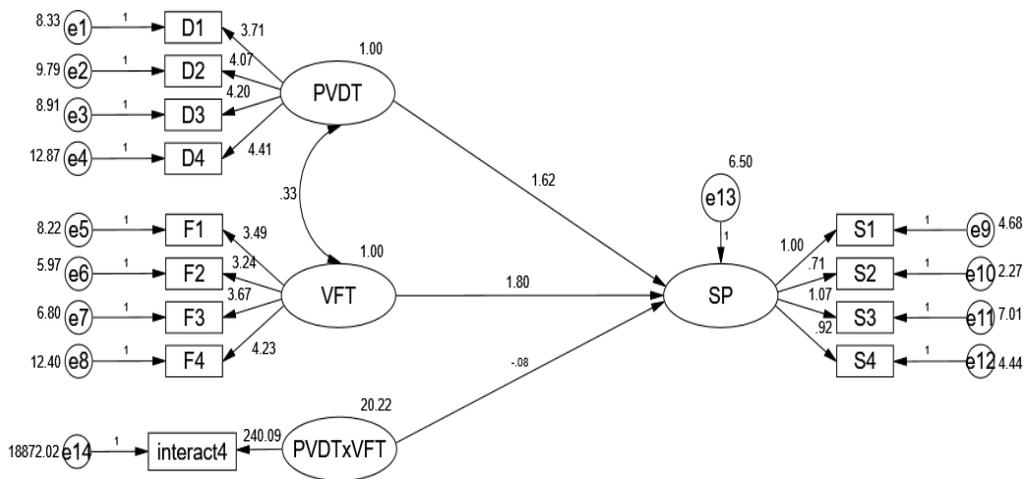


Figure 10. Non-linear setting and interaction

Table 9

Moderator of VFT on the relationship between PVDT and SP

Dependent Variable	Interaction	Unstd.	S.E.	z-value	P
SP	PVDT	1.624	.205	7.934	***
SP	VFT	1.802	.208	8.674	***
SP	MO	00-.081	.037	-2.187	.029

Note. *** = $p < .001$

The P value is significant, so interaction exists, showing vocabulary fluency has a moderation effect on the association between the productive depth of lexical knowledge and speaking proficiency (Table 9).

Results based on the analysis above show vocabulary fluency has certain moderation effect on the correlation between the other three dimensions of lexical knowledge and speaking proficiency, but not for the receptive breadth of lexical knowledge. The findings indicate that the moderation role of vocabulary fluency exists.

So, hypothesis H4 is accepted, offering support for verifying the hypothesis and answering RQ3.

DISCUSSION

This research aims to ascertain the association between L2 lexis and oral proficiency of 312 participating Chinese university students. It was found that L2 vocabulary knowledge can substantially explain L2 proficiency in speaking. These results indicate that Chinese university students with a larger vocabulary in breadth, depth, and speed may have higher oral levels, making them produce more fluent, accurate, and appropriate vocabulary in

their oral performance. This finding suggests that overall L2 lexical knowledge can largely predict L2 speaking competence in speaking, $R^2 = 0.47$ (47%), which is generally consistent with some previous research into L2 speaking, particularly previous studies using SEM (De Jong et al., 2012; Koizumi & In'nami, 2013). Koizumi and In'nami (2013) declare that vocabulary knowledge can predict 84% of spoken language.

Receptive vocabulary knowledge measured via VLT designed by Schmitt et al. (2001) and VDT, that is, WAT designed by Read (1998), have a low correlation on speaking proficiency with $r = 0.315$, $p < .001$ and $r = 0.307$, $p < .001$ respectively based on Pearson correlation. As an independent variable, receptive vocabulary knowledge also has a lower influence on the dependent variable oral ability, that is, VLT with $\beta = .15$ and DVKT with $\beta = .16$. This finding suggests that the association between receptive vocabulary knowledge and L2 speaking reveals the lower association between the two in assessing learners' speaking capability from receptive vocabulary test scores, that is, compared to productive vocabulary knowledge, the contribution of

receptive vocabulary knowledge to speaking might be smaller.

Productive vocabulary knowledge measured via PLT explored by Laufer and Nation (1999) and PVDT chosen by us from IELTS has a medium correlation on speaking proficiency: PLT with $r = 0.472$, $p < 0.001$ and $r = 0.537$, $p < 0.001$ based on Pearson correlation, and the effect of productive vocabulary breadth and depth on oral ability are $\beta = .32$ and $\beta = .40$ respectively. The finding indicates that productive vocabulary knowledge has a medium correlation with oral performance. That is, it is of relative significance for L2 learners to develop productive vocabulary knowledge for advancing their productive speaking proficiency.

Mehmet Kilic (2019) showed that the association effect of RVLT (receptive breadth of vocabulary knowledge) with speaking is $r = 0.40$, and that of WAT (receptive depth of vocabulary knowledge) with speaking is $r = 0.34$, and that of PVLT (productive breadth of vocabulary knowledge) with speaking is $r = 0.39$. Mehmet Kilic's results suggested the strongest correlation between RVLT (receptive vocabulary breadth) and speaking. However, in our study, speaking should have a closer relationship with productive vocabulary knowledge as a productive language skill. So, our results may be more reasonably based on the language nature.

Regarding the correlation between vocabulary breadth with the five different frequency levels and spoken language, according to the benchmark of Plonsky

and Oswald (2014), there is a moderate correlation between the two ($r = 0.55$), which seems to be much lower than that of vocabulary size of correlations found in receptive language skills such as reading at $r = 0.83$, $p < .01$; and listening at $r = 0.69$, $p < .01$ (Stæhr, 2008). As indicated by Nation (2001), the spoken English coverage rate needs to reach 3,000 words, the spoken English coverage rate needs to reach 98%, and the 7,000-word family needs to reach 98%, which is in line with the vocabulary of 5,000 words found in current research. A consistent frequency level of 10,000 is as important as reading or listening for improving L2 speaking, indicating that the larger the vocabulary, the higher the oral ability. Nation (2001) showed that a 3,000-word family needed to reach 95% coverage for spoken English and 7,000-word family needed to reach 98% coverage for spoken English, which is consistent with the finding in the current study that vocabulary size with the 5,000–10,000 frequency level might be more significant for enhancing L2 speaking ability, just as for reading or listening, indicating the larger vocabulary, the higher speaking ability. However, Alharthi (2020) found that the participants with 2,000 and 3,000-word frequency levels can gain high speaking scores in their study. Therefore, it is reasonable that some scholars agree that 2,000 and 3,000-word families enable L2 learners to deal with daily conversation (Adolphs & Schmitt, 2003; Milton, 2013; Read, 1998; Stæhr, 2009), and it is noted that for L2 learners need to acquire much more vocabulary for successful and satisfying oral communication.

Vocabulary fluency in this study, the speed of retrieval of words, unlike from other scholars' research perspectives, has had only its moderation effect explored in the association between vocabulary and speaking. Based on the analysis result of Ping's Single Product Indication Method (see Table 5), *p* values of lexical knowledge (excluding receptive breadth of vocabulary knowledge) are less than .05, showing that vocabulary fluency has a certain moderation effect in examining the correlation between receptive vocabulary depth, productive vocabulary breadth, and productive vocabulary depth and oral ability. Although the *p*-value of receptive vocabulary breadth is lower than .05 based on the analysis result of Ping's Single Product Indication, its foundation role for speaking could not be denied. That is, vocabulary fluency has an important impact on L2 learners in improving their speaking ability by having a good command of lexis.

In addition, it is necessary to develop some other strategies for cultivating the speaking ability of EFL and ESL learners, such as motivational teaching practices, training, and anxiety control.

CONCLUSION

This study found that overall L2 lexical knowledge accounts for 47% of the variance in oral performance capability, indicating that lexical knowledge is a significant predictor of speaking proficiency. Also, whichever the Pearson correlation coefficients or multiple regression coefficients result, productive vocabulary knowledge is higher than

receptive vocabulary knowledge, indicating productive lexis creates a relatively more significant effect on speaking proficiency. Therefore, L2 learners should pay greater attention to productive lexical knowledge based on well-balanced vocabulary knowledge to improve their productive oral skills. In conclusion, the role of vocabulary knowledge on speaking ability should be emphasized, especially productive lexical knowledge. However, it should not be overestimated because many other aspects are related to oral ability. Therefore, we believe the relationship between L2 lexical knowledge and speaking ability should be given attention.

Implications

The present study was conducted to bridge the research gap on the association between the multiple dimensions of L2 lexical knowledge and speaking ability and fill the gap in research on the moderating effect of vocabulary fluency on the association between L2 lexical knowledge and speaking. This study had three main strengths. Firstly, SEM was used to analyze the relationship of the variables to control measurement error. Secondly, except for four aspects of vocabulary knowledge, the moderator effect of vocabulary fluency on speaking performance was also examined. Lastly, unless different types of lexical knowledge are taught for developing different language skills, it is unlikely that a successful and satisfactory conversation could be held by only having a command of high-frequency word level.

Limitations

There are two project limitations. First, the participants were only from the university in this research, so future studies should recruit participants at different levels of ESL. Second, all the participants' scores were analyzed in this research, and future studies should analyze the difference between males and females.

There is also a research design limitation in this study. All the data came from vocabulary and speaking test scores, which belongs to objective results. Questionnaire surveying should be considered in future studies to understand the participants' subjective attitudes toward English learning.

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APPENDIX 1

Student instruction sheet for the Vocabulary Fluency Test.

Please complete the missing words while you are listening to the passages. Here is an example.

Welcome to all of you...can everybody see and hear me? Good...I'm Sally, your _____ for this _____ of the Bicentennial Park...I hope that you're all _____ your most _____ and that you can keep up the _____. So let's _____ under _____ on our tour around this _____.

It should be answered in the following way.

Welcome to all of you...can everybody see and hear me? Good...I'm Sally, your guide for this tour of the Bicentennial Park...I hope that you're all wearing your most comfortable shoes and that you can keep up the pace. So let's get under way on our tour around this wonderful park.

Now, let's begin.

I'll start today with some _____ background _____. There used to be a lot of _____ in this _____ until the 1960s. Creating the park required the _____ of lots of derelict _____ on the _____, so most of the _____ park _____ all around you was originally _____ and _____. The idea of building a _____ park here was first _____ when a property _____ proposed a high-rise _____ development, but the local _____ wasn't happy. If the land was to be cleaned up, they wanted to use the site for _____. Residents wanted open space for _____ activities, rather than housing or even an _____ complex.

Now to the Bicentennial Park itself. It has two areas, a _____ and a formal park with _____ features and _____. The tall _____ buildings in front of us is called The _____ and is the _____ point for the _____ gardens. It stands _____ high, so follow me up the _____ to where we can take advantages of the fantastic _____. Well, here we are at the top of The Tower, and we're going to look at the view from each _____. Out to the east, the _____ buildings about a _____ away are on the _____ site. There's an indoor _____ for _____, a stadium for _____ and _____ and a swimming pool for races and synchronized swimming and also diving.

If you look carefully down there, you can see the _____. The Olympic site has its own station to _____ the use of _____. There is also a _____ park, but it only holds a _____ number of cars. The formal park has some specially-created water features. If you look out here to the south, you can see a _____ ornamental pond. And around to the west, you can _____ and sit on a _____ to smell the flowers in the _____ garden, and

finally up to the north, if you look in front of you now, there's a lake with a small _____ in the center, you can hire rowing _____ at the boat _____, which you can't see from here, but if you look through the _____, you can see the _____, which has lovely views across the water. Ok, let's _____ down now. We will go now and have a look at the _____ section of the park, which has opened up natural _____ to the public.

The mangroves have been made more accessible to _____ by the boardwalk built during the park's _____. You'd think that people would come here to look at the unusual _____ of the area, but in fact it's more often used for _____ and is very _____ with the local _____. This is the far _____ of the park and over there you can see the _____, a natural feature here long before the park was designed. Just next to it we have our outdoor _____, a favorite spot for _____. The area is now most often used by primary schools for _____. And finally let's pass by the Waterbird Refuge. This area is in a sheltered part of the estuary, that's why the park's _____ is a favorite spot for _____ who can use it to spy through binoculars. You can watch a variety of water birds, but most visitors expect to see black _____ when they come to the shelter. You might spot one yourself right now!

Answers to Vocabulary Fluency Test

Paragraph 1	Paragraph 2	Paragraph 3	Paragraph 4
1. general	1. nature	1. train	1. visitors
2. information	2. reserve	2. lines	2. upgrade
3. factories	3. man-made	3. encourage	3. plant
4. area	4. gardens	4. public	4. life
5. demolition	5. blue-and-white	5. transport	5. cycling
6. buildings	6. tower	6. car	6. popular
7. site	7. centre	7. limited	7. clubs
8. exciting	8. formal	8. circular	8. end
9. space	9. twelve	9. relax	9. frog
10. warehouses	10. metres	10. bench	10. pond
11. storehouses	11. stairs	11. rose	11. classroom
12. public	12. views	12. island	12. school
13. discussed	13. direction	13. boats	13. parties
14. developer	14. large	14. shed	14. biology
15. housing	15. kilometre	15. trees	15. lessons
16. community	16. Olympic	16. cafe	16. viewing
17. recreation	17. arena	17. climb	17. shelter
18. outdoor	18. gymnastics	18. nature	18. bird
19. indoor	19. track	19. reserve	19. watchers
20. sports	20. field	20. wetland	20. swans

APPENDIX 2

The speaking test scoring criteria

band	fluency & coherence 25%	lexical resource 25%	grammatical accuracy 25%	Pronunciation 25%
5	Speaks fluently with rare repetition or self-correction; Speaks coherently with fully appropriate cohesive features; Develops topics fully and appropriately	Uses vocabulary with full flexibility and precision in all topics	Uses a full range of structures naturally and appropriately	Uses a full range of pronunciation features with precision; Effortless to understand
4	Speaks fluently with only occasional repetition or self-correction; Speaks coherently with normally appropriate cohesive features; Develops topics coherently & appropriately	Uses a wide vocabulary resource readily and flexibly to convey precise meaning	Uses a wide range of structures flexibly Produces a majority of error-free sentences with only very occasional inappropriate errors	Uses a basic range of pronunciation features with relatively control
3	Willing to speak at length, though may lose coherence at times due to occasional repetition, self-correction or hesitation; Uses a range of connectives and discourse markers but not always appropriately	Has a wide enough vocabulary to discuss topics at length and make meaning clear notwithstanding inappropriacy	Uses a mix of simple and complex structures, but with limited flexibility May make frequent mistakes but rarely cause understanding problems.	Uses a range of pronunciation features with mixed control
2	Cannot respond without noticeable pauses and may speak slowly, with frequent repetition and self-correction	Talk about familiar topics but can only convey basic meaning on unfamiliar topics and makes frequent errors in word choice	Produces basic sentence forms; Errors are frequent and may lead to misunderstanding	Mispronunciations are frequent and cause some difficulty for the listener
1	Pauses lengthily and little communication possible	Only can produce isolated words	Cannot produce basic sentence forms	Speech is often unintelligible



Colour Symbolism in Turkic Culture: A New Look in the Reconstruction of Colour Designation

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ABSTRACT

This article examines the colour symbolism of space (the four cardinal directions) in the Turkic languages. The ancient Turks used colourative vocabulary to refer to the four cardinal directions. In studies on Turkology, it is claimed that each 'corner' has its colour. In this article, the authors set the task to determine the colour symbolism of the 'kindik-centre.' The article uses a mytholinguistic reading of the sign 'circle with the point inside.' This sign in modern Kazakh mythology is used in the reconstruction of images and to explain the symbolic meaning of words. The main research material is the colourative vocabulary of the Turkic languages. In the traditions and cultures of different peoples, along with the four sides of the world, there is a concept of a centre that unites these sides. In some peoples, the centre is symbolised by colour, while in the Turkic peoples, this symbolism is absent. However, as a result of the analysis of linguistic, ethnographic and mythological data, the authors concluded that the colour of the centre of qonjur is brown.

Keywords: Circle with the point inside, colour space, mytholinguistics, qonjur, symbolism of colour, Turkic languages

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INTRODUCTION

The Turkic languages are part of the Altaic language family. Today, about thirty natural languages belong to the Turkic language. The Turkic languages are divided into subbranch, such as Oguz (e.g., Turkish, Azerbaijani, Turkmen), Kipchak (e.g., Kazakh, Nogai, Tatar, Bashkir), Bulgar (Chuvash), Karluk (Uzbek, Uyghur), Siberian (e.g., Tuvan, Khakass, Yakut).

These languages are classified according to their phonetic and grammatical features. However, due to their common origin, they have a lot in common in language and culture. One such concept is the four cardinal directions and their colour symbolism.

Since ancient times, four sides of the world (east, south, west and north) have played an important role in creating a system of coordinates that allowed people to define and describe their position in space, i.e., to orientate themselves in relation to other objects. Podosinov (1999), who studied the peculiarities of the classification of four sides of the world by people living on the Eurasian continent, writes: “The division of the world into four parts, quarters, quadrants, segments are widely documented in many cultures of Eurasia. The number ‘four’ spatially meant the whole totality of space, the whole world, the universe” (p. 484). Levy-Bruhl (1930) believed that for indigenous of North America, the number four was considered sacred:

Almost all Indians “Redskin” have four numbers and multiples had sacred meaning, as they refer specifically to the four sides of the world and to the winds blowing from these sides, and the sign or symbol used for the number four was the Greek cross. (pp. 105-106)

For ancient Turks, the earth was considered square and was denoted by the term ‘*tort bulun*’ (four corners). In the *Kultegin*, a monument of the ancient Turkic script, the four sides of the world are represented as follows: *ilgeri* ‘east,’ *kurigaru* ‘west,’ *bergeru* ‘south,’ ‘the southern side,’ *yirgaru* ‘north’ (Sartkozhauly, 2012).

In the X-XIth centuries written monument ‘*Yryk bitig*,’ one may find expressions such as *Tort buryshstan zhinalgyan* (gathered from the four corners (of the world). Klyashtorny (2001) writes about it this way:

Four sides of the world are meant. The concept of ‘angle’ as ‘side of the world’ with symbolism of geometrical forms, developed among the Turks under the influence of the Chinese cultural tradition. According to this tradition, the geometrical image of the earth is a square formed by four lines (number of yin), each of them is limited by two angles (number of yin) that together expresses the idea of limitedness and multiplicity of the earth, unlike the sky whose geometrical image is a circle outlined by one line (number of yang) that expresses the idea of infinity and unity of the sky; yang embodies male power, yin—female power. (p. 147)

However, in our opinion, it is an extremely one-sided view because, in the linguistic, ethnographic, and folklore heritage of the Turkic peoples, there are many representations of the four corners of the world (Baskakov, 1980; Kononov, 1978a, 1978b; Qondybay, 2004; Temirgazina et al., 2022). According to Kononov’s (1978b) research, the Turkic peoples skilfully used colour symbolism to identify (designate) the four cardinal points. The Turkic peoples linked colours to a particular direction or side of the world (e.g., black is the north, red is the south).

Many studies have been carried out in Turkological science, and many problems have been solved. However, it does not mean that colour symbolism has been studied completely. There are enough unresolved problems on this topic in Turkic coloristry. However, we want to draw scientists' attention to one problem that was not mentioned in these research works. It is the colour symbolism of the concept 'kindik-centre,' 'orta-middle.' The main purpose of our article is to answer (hypothesise) the question of what colour is the symbol of the centre based on linguistic, ethnographic, and mythological studies.

Colourative Vocabulary and Symbolic

The ancient Turks and other peoples used colour names to denote the four cardinal points (Kononov, 1978b; Podosinov, 1999). Kononov (1978b) proves in his article that the word *qara* (black) is associated with the north. For example, the names formed in combination with the word *qara* (black): *Qara orda* (Black Horde), *Qara qum* (Black Sand)—'The northern horde,' 'The main horde;' in the Turkish and Kazakh languages *qara jel* (yel) 'cold northern wind;' the word *qara* within oronim, hydronim and ethnonyms also denote the northern direction.

In the Turkic languages, the antonym for *qara* is the word *aq* 'white.' The word *aq* appears in many toponyms, hydronyms and ethnonyms. Symbolically, white symbolizes the west. For example, the Mediterranean Sea is also called *Ak deniz* (Western Sea) in Turkish. The Caspian Sea has long been

called *Aq teniz* (White Sea; Kononov, 1978b). Apart from *aq* (white), the word *saryg* (yellow) also means 'west.' In the Old Khazar and Bulgar languages, the word *saryg* (sar) yellow means 'white.' For example, the name of the fortress *Sarkel*. It consists of two roots, sar + kel: *kel* or *gil/kil* (house), thus *Sarkel* fortress is translated from the Khazar language as *Belgorod*. In ancient times, translators into other languages (Arabic, Greek, Russian) translated it as 'White house.' In particular, one may see it in the Arabian translator as *al-Beyda*, and in the Russian annals where it is translated as *Belaya Vezha* (Ak Kamal—the White Fortress; Kononov, 1978b). Ashmarin (1898) gives the following information about the *Sarkel*: the name *Sarkel* on the bank of the river Don is explained by the combination of the words *shura*, *shora* 'white' in Chuvash and *kil* 'house,' i.e., *shora kil* (*Sarkel*) 'white house.'

In the Turkic languages *kök* (blue) denotes the 'east.' At the end of the XIV and beginning of the XV century, the Juchi tribe was divided into two khanates. The Khanate in the east was called *Kök Orda* (Blue Horde), and the Khanate on the western side was called *Aq Orda* (White Horde). According to Pritsak (1954), the Turks who inhabited the sacred land *Utuken* in the eastern part of the Mongolian steppe called themselves blue (blue) Turks, i.e., 'eastern Turks.' According to von Gabain's (1962) data, the mountain *Kökmen-dag* (Kukmen tau) is situated east in the Old Manichaeon fragment. Also, *Genghis Khan* called his people by the Turkic tradition *Köke Mongol* (Blue Mongol; Kononov, 1978b).

According to von Gabain (1962), according to the Chinese tradition of Turks, the word *qyzyl* 'red' symbolized the south. She regards the name of the desert *Qyzylkum* as 'southern sand.' Kononov (1978b) states that in the Turkic languages, no data indicates the 'southern' meaning of the word *qyzyl*. In the names of toponyms in the south of Turkey, the word *kyzyl* prevailed (Jahit, 2013).

In general, the views of research on the symbolic meaning of flower names in Turkic languages coincide. However, in the studies of the following years, the generalization of the previous statements of scholars prevails; therefore, we have to review the literature of the Soviet period. Furthermore, the concept of the centre, which interests us, is considered in the study of Lvova et al. (1988), but its colour meaning is not described in their work either.

METHODS

Our work analysed linguistic facts through structural analysis, etymological reconstruction, and comparative and historical methods. We have analysed Turkic language facts, and materials from other languages (for example, Mongolian) have been used. It is known that Turkic languages are polysemy languages. One word can have dozens of meanings. Furthermore, the meaning of the word in the Turkic languages develops from general to specific. Academician Kaidar (2005) writes:

The category of originally Turkic, including Kazakh, monosyllabic

roots and bases, is characterized by semantic filiation, i.e., the sequence in the development of meaning from the general undifferentiated to the more particular and concrete. The sum of the values of all derived formations from the same root morpheme, having not only a continuity with its original meaning, makes up the total, which is the initial in its semantic structure. (p. 165)

Taking into account these features, we used in the study mytholinguistic reading of *the sign of a circle with the point inside* in modern Kazakh mythology (Qondybay, 2004). This method opens the way to a complete understanding of the nature of the word in the Turkic languages. Mytholinguistics is a field that opens the possibility of explaining more fully the history of the development of the word at the junction of myth and linguistics. Myth is a human fantasy, and language is the reality of this fantasy. Therefore, many mythological concepts are preserved in the language. For this reason, to understand two phenomena in Kazakh mytholinguistics, the interpretation of *the sign of a circle with the point inside* is used (Qondybay, 2004; Khassenov et al., 2021).

In addition, it is possible to use this method to describe the development of the human word as a whole. Ivanov (1991) notes that based on the data of the anthropological reconstruction of the development of the speech apparatus from Neanderthals to Homo Sapiens and paleoneurological

reconstruction of the development of the speech zone in the left part of the brain, as in ancient man, the right part of the brain is formed first of all, and then the posterior parts of the left part of the brain, corresponding to a specific name of objects (hill, skull; occipito-parietal), and, finally, the frontal, temporal-frontal (temporal-frontal) divisions, which correspond to syntactically complex constructions. It can be observed in the development of a child. When a child begins to hold a pen or pencil in his hands, the first thing he does is a doodle. Gradually, during the development of the child's brain, the pictures begin to be detailed. After the doodle, he draws images similar to circles and, over time-various images inside the circle. It is known that writing, a stage of human intelligence and consciousness development, was formed gradually; that is, it developed and improved over many years, moving from pictographic writing to alphabetic (Khassenov, 2021). It is how the brain and the child's speech development; that is, the development process goes from the general to the particular. At the same time, the meaning of the word in the Turkic language develops from general to specific. Furthermore, to explain this, we used the Qondybay (2004) method to reveal the nature of the development path of the meaning of words, which we took for research. In general, we will show how this method works below. We think the scientific society will recognize this method as an innovation.

RESULT AND DISCUSSION

Colour Symbolism of the Centre

For the ancient Turks, the names of colours were connected with the four cardinal points. Each colour had a symbolic meaning (blue—east, red—south, yellow/white—west, black—north). Some scholars (e.g., von Gabain, 1962) hold to the opinion that the ancient Turks received colour symbolism for the cardinal points from neighbouring China. In Chinese culture, the colour has an important meaning and indeed coincides exactly with the ancient Turks in denoting the horizontal model of the world (Podosinov, 1999). However, there is one peculiarity in the worldview of the Chinese people. Yellow symbolizes the centre of the world. The 'navel/umbilical cord of the earth' (*jerdin kindigi*), the centre of the world or the middle of the world—in mythology, the central part of the universe, is one of the categories of space modelling in most mythological systems. The world axis (*axismundi*) passes through the object representing the middle of the world (Tokarev, 1988).

In Old Turkic, the concept of the centre of the world is found, but its colour expression is absent. Nevertheless, based on linguistic, ethnographic, and mythological data, it is possible to reconstruct the colour concept of the world centre. The figure below presents the geosymbolism of colour names, as we proposed (Figure 1).

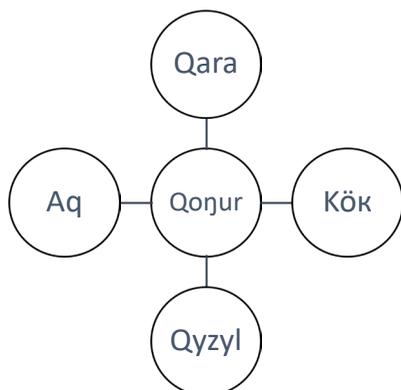


Figure 1. Classification of colours by the side of the world: *qara*—black, *kök*—blue, *qyzyl*—red, *aq*—white and *qoňur*—brown

Podosinov (1999), having studied the concept of four sides of the world in the worldview of the peoples of Eurasia, draws the following conclusions:

So, we see that besides the usual ‘essences’ in any religious-mythological or philosophical-idealistic (which was the worldview of most archaic societies), a ‘fifth essence’ (quintessence —from Latin. quintessential) that would either bind the other four (Indian ‘space’) or give them a divine extraterrestrial impulse, impetus, energy (ether). (p. 515)

It means there should be a centre, a ‘navel of the earth’, which links the four sides of the world (space). In our opinion, the colour symbol of this centre of the world is *qoňur* (brown).

Meanings and Etymology of *Qoňur*

In the etymological dictionary of the Turkic languages, the brown word is

characterized as follows: *qoňur* (Turkmen, Kumyk, Kirgiz), *kongyr* (Kazakh, Nogai, Qarakalpak, Uigur, Altai), *komur* (Gagauz), *kongir* (Uzbek), *kungir* (Tatar), *gongur*, *gönür*, *goğur* (in Turkic dialects). Some languages have variants: *kho:r* (Khakasian) and *khamar* (Chuvash). The meaning of this word in the Turkic languages is associated with colour. However, one name (*qoňur*) is used to denote dark and light colours: *dark brown*—Uzbek; *brown*—Kumyk; *brown*—Tatar; *brown with yellowness*—Kumyk dialect, Kazakh; *chestnut*—Turkish dial. (gour.); *the colour of burnt sugar* - Turkish dial.; *dark coffee*—Turkish dial (gour); *colour between red and coffee*—Turkish dial; *dark yellow, close to coffee*—Turkish dial; *light yellow*—Tur.dial; *dark blonde*—Chagatay (see: Levitskaya et al., 2000). The basic meaning of the Turkic word *qoňur* is dark colours, but some dialects of the Turkic languages have also survived the meaning of expressing lighter shades. In its etymological dictionary, Starostin (1998) associates the base of this word with a form of hyphen **KVŋV*. The characteristic of the word *qoňur* in other languages is as follows: in Mongolian *khonkhor*, *khongar* (light brown), Tungus-Manchu *koŋno-mo*, *qōŋŋ*, others (*qara*-black), in Korean *kinil*, *kānār* (shade), in some languages of Central, Eastern and Western Chad (Chadic) *kenúm* (night), *kalme* (dark colour), in the Indo-European languages by form and meaning Turkic *qoňur* correspond to hypotic **kAn(a)k-*, **knāk-* (Starostin, 1998).

The *qoňur* has several figurative meanings in the Turkic languages. For

example, in the Kyrgyz, Qarakalpak and Kazakh languages, *qoŋur/konyr* combined with the word *salkyn* (coolness) has the following meanings: ‘light and pleasant coolness’ (Kyrgyz, Qarakalpak), ‘neither hot nor cold’ (Kazakh). The Evenki language uses the word *konngor*, referring to the wind, expressing the meaning: ‘wind that blows from the south,’ ‘south wind.’ In Buryat also, there is a similar form and meaning: *khongor halkhin*, ‘gentle wind,’ ‘that is, ‘wind from the south,’ ‘south wind’ (Levitskaya et al., 2000, p. 63).

The word *qoŋur* in the Turkic languages is associated with voice and sound: suppressed, hoarse (about voice; Nadelyaev et al., 1969); low, pleasant, thoracic - Kyrgyz (about the voice; Levitskaya et al., 2000). The Kashgari dictionary cites verbs formed from the word *qoŋur*: *qonrady-konyrlady*, *qonyrqai tartty*. Do not use the same words as those used in this manual. It is not used in this case, but it is not used in the same way. In this case, it is not used in the sense of colour but the figurative sense. When a child reaches *müshel jas*—thirteen years (the traditional Kazakh calculation of a person’s age according to the twelve-year cycle (the first cycle ends at the age of thirteen), he changes both physiologically and psychologically, at this point, a change in the voice (voice mutation) takes place, it was called *konrady* in Middle Turkic times, which rather means ‘evolution of the voice’.

The dictionary defines the word combination *qoŋur un* as a sound from the larynx (Kashgari, 1998). In our opinion, this expression is related to singing. The

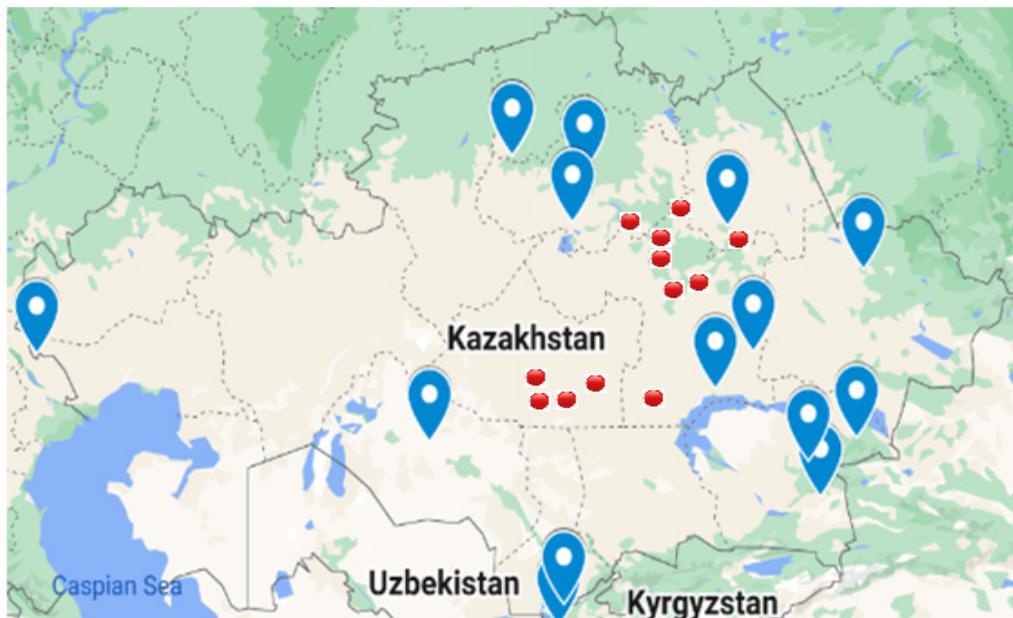
art of ‘laryngeal singing’ has survived until now. Otherwise known as throat singing, i.e., the technique of singing with unusual articulation in the pharynx or larynx. Throat singing is a unique phenomenon in the traditional musical art of many peoples (Bayazitova, 2013; Bürbe, 1964; Ihtisamov, 1988; Lamazhaa & Suzukey, 2019). Furthermore, the sound made by the *komeishi* (in Tuvan: *hoomeizhi*) was called *qoŋur un*. The same word combination is also found in the Kazakh language. For example, Kazakhs call *qoŋur un* the sound of *dombra*, *kobyz* and *sybyzgy* (r. *chibizga*, bashk. *hybyzgy*, others). The music researcher Nazhimedenov (2001) classified (sounds) as pure (*halal*) and impure (*haram*), while he classified *qonyr un* as pure sound and scientifically defined it as follows: *konyr un* - sound, its perception range of 30—75 decibel, i.e., sound or music not exceeding noise of the nature.

For example, the sound power of water flowing simply in nature begins at 27 decibels. The sound power of water flowing down a mountain in a loud waterfall does not exceed 80 decibels. *Haram* — unpleasant sounds that go beyond the certain hearing of the human ear have a negative effect on the heart, blood pressure, the brain (Nazhimedenov, 2001). That is the name of the natural sound—*qoŋur un*, coming from the human larynx and instrument. Also, this sound can be associated with sacral notions, as in ancient times, music was used only in certain rituals and celebrations. Ethnographer Seidimbek (1997) writes that the Turks had a custom on the *Great Day* of

the Equinox to transmit hopes and wishes of the whole Kaganate to Tengri (the Highest) by attracting *togyz küy* (nine küy). Thus, music or *qoňur un* serves as a link between the two worlds, a bearer of hopes and desires of the dynasty, the country to Tengri. Here *qoňur un* has the meaning ‘linking link’ (connecting point), and a clear connection with the concept ‘orta-middle’ is evident.

In the Kazakh language, the meaning ‘orta-middle’ of this word has been preserved: *qoňur* in the phrase *qoňur dawys* ‘pleasant voice’ expresses neither a ‘bass, rough, low, nor a high, thin voice, but a middle voice in between.’ The meaning ‘middle’ of the word *qoňur* has also been preserved in the phrases *qoňur küz* (about autumn), *qoňur tirshilik* (about everyday life), and *qoňur üi* (about the yurt). In the

past, the colour of the yurt determined who was rich and who was poor. In white, light yurts (aq üy, boz üy) lived rich people; in darker (black) yurts (qarasha (qara) üy) poor people and *brown yurts* (qonyr üy)—simple, middle-income people. In the Kazakh language, the word *qonyr* is also used in the meaning of ‘orta’ (middle) in relation to time. In Kazakh, *qonyr küz* refers to the ‘middle of autumn’. Names of mountains, hills and hills in the central part of the Kazakh steppes also contain the word *qonyr* (Figure 2). These hills and mountains are not very high, mostly low, and the most interesting thing is that they are located in the central part of the Republic of Kazakhstan, i.e. in the middle of the vast territory of the country (Qondybay, 2003).



Source. Google maps

Figure 2. Map of Kazakhstan. Locality names with the word *qoňur*. Some hills and mountains are marked in red.

There are different assumptions and hypotheses regarding the etymology of the word *koniyr* (brown). The word *qoŋur* is derived from *kon* (crow) and *qonuz* (beetle). The authors of the etymological dictionary believe that the genetic connection of *qoŋur* with the second word (*qonuz-bug*) is logical. Since the roots of *qoŋur* and *qonuz* have an interchange of *r* and *z* sounds: *kon~qon* and the meaning of this word is *qyj* (manure), *tezek* (dung; Levitskaya et al., 2000). The toponymist Abdrakhmanov (1989) considers the word *qonyr* to be a phonetic variant of the word *khonkhur* (pit, cave, ravine, ditch), which underwent sound changes in the Mongol language. This view was supported by Zhartybayev and Slambekov (1997) in their studies: the word *qonyr* in the oronim of the Qaraganda region *Dara-Qonyr* is the Mongolian word *konkhur*, which means ‘a separate, solitary ravine-beam place’ or ‘hill’.

The word *qoŋur* has many meanings, and its explanation requires a profound etymological analysis. In our opinion, the root of *qoŋur* in the Turkic languages is *qoŋ*. The notions of ‘kindik-centre’ and ‘orta-middle’ influenced the development of colour meanings of this word. The figurative meaning of the word *qoŋur* has retained the meaning of ‘orta-middle’. It can also explain the development of the colourative meaning of the word *qoŋur*. In physics, there is a known law: the entire spectrum of colours is accumulated in a light beam (white light beam). However, we have to keep in mind that the sum of all colours (pigments) gives a brown colour. The colour is a result of colour

mixing, and the colour in the metabolism process is brown. According to the laws of the Turkic languages, the consonants (*q*) and (*k*) and vowels (*o/a*) and (*ö/e*) may alternate with each other (Sagyndykuly, 2009). Then the base *qon* may be changed to *köŋ*. The word *köŋ* means ‘*qyj-dung*’. The colour of *kizek* (dung) is brown. That is, the food of animals eating coloured matter turns brown in the process of metabolism. If you mix the colours representing the four sides of the world, you get a colour similar to brown. Thus, the names of the neutral colour (*qoŋur*) and *dung* (*köŋ~qoŋ*) have the same root meanings, and they complement each other. There is an interesting Filipino legend:

God made some sculptures out of clay that he needed and put them in a furnace. The first sculpture was taken out before its time, and a white man came out of it. He kept the second one in the stove longer, so it burned and became black. Furthermore, the third sculpture was kept in the oven as long as needed. From this statue, God created *kamayungi*, i.e. brown people, Filipinos. (Sumlenova, 1985, p. 37)

Although this legend has no relation with the Turkic peoples, it coincides with the meaning of ‘orta-middle’ of the word *qoŋur* in the Turkic languages.

Mytholinguistic Interpellation of the Meaning of *Qoŋur*

The word *qoŋur* has several figurative meanings. However, all these meanings are interconnected with each other. Therefore,

to uncover and interpret these meanings, it would be useful to use the ideas of a central point in metaphysics and mythology. About this, Guénon (2002), in his book ‘Symbols of Sacred Science’ writes:

The centre is, first of all, the beginning, the starting point of all things, the point of prime cause, without form or dimension, hence indivisible, and therefore the only possible representation of the original One. From it, through its manifestation, everything else came into being, just as the One produces all numbers, which, however, in no way affects or changes its essence... The central point is the Principle, pure Being, and the space which it fills with its radiation and which exists only because of this radiation (‘Let there be light’ in the Book of Genesis), without which it would be only ‘no’ and nothingness, is the World in the sense of its infinity, the totality of all beings and all states of Being that constitute a universal manifestation. The simplest representation of the idea we have formulated is the point in the centre of the circle (Figure 3). The point is the sign of the Principle, the circle is the symbol of the World. (p. 87)

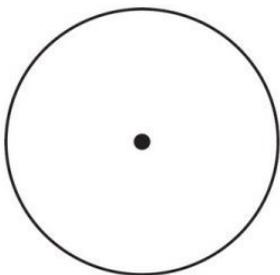


Figure 3. Circle with the point inside

We can only portray our environment, the world, and the universe through symbols. We cannot see and know how the world was created, its image, shape, size, and material it is made of, and how the Creator created it. We can only symbolise it. The simplest symbol to explain natural existence is the point. The point is the navel, the light, the absolute, the foundation (primordial; Guénon, 2002; Khassenov et al., 2021; Qondybay, 2004). The regularity of life is based on this formula. Symbolically, we are created at the point; we return to the same point when we die. Qondybay (2003) described mythical meanings of the sign of a circle with the point inside as follows:

1. Circle—universe, point (ng): ‘human cosmos.’
2. Circle—world water, point (ng): earth, the embryo of the earth in the middle or depth of waters.
3. Circle—mother’s womb, point (ng): seed, embryo.
4. Circle—mother, point: child, offspring.
5. Circle—cave, home, point (ng): people, family, kin in a cave, home.
6. Circle—world waters, point (ng): world mountain.
7. Circle—a ditch, a pit, point (ng): the bottom of a ditch, a pit. (p. 32)

The mythologist names the point as *η* (*ng*). It is associated with the sound a child makes when born. When a child is born, the first word/sound it makes is *η* (*ng*). In Russian, it is called ‘baby cry.’

In the Turkic languages, there is a special name for the first word of a child—*ingə* (*nga*) (Khassenov et al., 2020; Khusainov, 1988). The very first sound that humankind makes is the sound *ŋ* (*ng*). In the Burmese alphabet, the sonorous sound *ŋ* is called *nga*. There are mythical characters called *Nga* (Nenets, Evenki) and *Ngai* (Masai), and in the names of the tribes living in Africa and Australia, the sound complex *nga* is met very frequently. Interestingly, in the transcription of the Proto-Turkic syllabic writing proposed by Kyzlasov (1994), the sonoric *ŋ* (*ng*) is denoted by the sign (⊙), a circle with a point. This sound is also preserved as a part of the word *qoŋur*. This sound could also affect the development of the meaning of the ‘orta-middle/centre’ of the word *qoŋur*, and the base *qoŋ* can clearly characterise the mythical meaning of the concept point. The point symbolises the middle, the navel-centre, the result. It is these meanings that are collected in the word *qoŋur*. The number of directions (lines) extending from the central point may be several. In myths and fairy tales, the number of these directions is four, six and eight. The spiritual centre, khan’s bet, paradise and the holy place are associated with the concept of ‘centre’. This centre has four corners, or four rivers, starting from a spring/river in the centre. Such similar plots can be found in any myth or fairy tale. For example, the Bible tells about the river of Eden, which is divided into four:

A river watering the garden flowed from Eden; it was separated into four

headwaters. The name of the first is the Pishon; it winds through the entire land of Havilah, where there is gold. (The gold of that land is good; aromatic resin and onyx are also there.) The name of the second river is the Gihon; it winds through the entire land of Cush. The name of the third river is the Tigris; it runs along the east of Ashur. Moreover the fourth river is the Euphrates (*The Holy Bible*, 2011, Genesis 2: 10-14).

One may also encounter such notions in some sources of the Turkic peoples. In one of his letters, *Yshbara Kagan* used the phrase ‘four seas,’ ‘four seas’ lying beyond human space, i.e. the absolute limit of the planet. The sea is the edge of the universe. The navel of the Universe (centre of the world) is the holy land Ötüken (Qondybay, 2004). That is, there is a general notion of four seas surrounding the centre of the Universe and four rivers spreading from the main river Eden. The beginning of the four seas and four rivers comes from the sacred place, paradise. It is the symbol of the fifth element or centre. The word *qoŋur* and the base of this word *qoŋ* are associated with these concepts (centre, middle).

Every nation has a notion of the centre of the earth (*zher kindigi*) in its worldview. The Turkic peoples consider Ötüken (Ötükän) (wooded area or mountain) to be the centre (*kindik*) of the earth. Potapov writes that the Old Turkic word Ötüken was the name of the mountain range where the ancient Turks lived, and it means ‘deity of the earth’ (Potapov, 1957). The *ken* component

of the word Ötüken survived in the Kazakh language as *qonys* ‘stasis’ (of nomads), *ata qonys* ‘native land,’ ‘ancestral land.’ The ancient Turks believed that from the Ötüken comes *qut* ‘prosperity,’ ‘grace,’ ‘strength,’ ‘wealth,’ and ‘prosperity.’ The sign of the circle with the point inside the Ötükän symbolises the centre of the world, from which the *qut* ‘goodness emanates.’ The Kultegin monument says that in the middle of the world (i.e., Ötüken) lived Turks, and from the four corners they were surrounded by enemies (Sartkozhauly, 2012). In Turkic languages the alternation of sounds a~e, a~o is regular (e.g. ken~qan). *Ken* and *qoŋ* may correspond in form and meaning to *qan*. The word *qan* has the meaning of ‘most’. For example, in the Kazakh language there are the words *qan maidan* ‘the peak of any action’ and *qan bazar*, ‘a large and noisy gathering of people.’

In the Old Turkic language, there is a word *ken* (rud), and its figurative meaning is ‘source’ (Nadelyaev et al., 1969). According to the mythical reading of the symbol with the point inside a circle, the point means ‘source (beginning) of life’ (embryo), ‘fetus,’ and the concept of the circle is associated with ‘mother.’ In the Kazakh language, the word *qoŋur* has a meaning related to a child and is also used in relation to the offspring, the young. For example, in folklore songs, *qoy süyedi balasyn qoŋynrym dep* (The sheep loves its child and affectionately calls it *qoŋur*). In this case, the word *qoŋur* is a synonym for lamb and means ‘offspring/descendant’ (child). A child/descendant is

also associated with the origins of life, with the concept of ‘basis,’ ‘primaevial basis’ (i.e., the beginning of life). One of the most common words, *qoŋ*, is *kindik*, ‘umbilical cord,’ and ‘centre.’ Two different meanings of this word (centre and umbilical cord) are also connected with the point in the sign (Figure 3). We think that Turkic languages derive the names of baby animals from *qoŋ* base. For example, *qoŋjyk* ‘bear cub,’ *kojek/konjek* ‘rabbit cub,’ *kodyq/konjdyq* ‘foal,’ ‘donkey cub.’ In Altaic and Dravidian, the preform **kuŋi* is used in relation to a child (Starostin, 1998). Moreover, we assume that the words *kind* in the Indo-European languages and *kindik* (umbilical cord; navel), *kench* (child), and *kin* (womb; female genital organ, childbearing organ) in the Turkic languages are associated with this preform (Nadelyaev et al., 1969).

CONCLUSION

In general, understanding the nature of the Turkic languages is better based on the symbolic meaning of *the circle sign with the point inside*. With the help of this sign, we can understand the meaning of the unifying centre/middle. Both the word *qoŋur* and its base *qoŋ* are related to this term. The point in the sign symbolises the middle, the centre of the world. This point (centre, middle) connects four lines (four corners). Each corner in the Turkic language had a colour symbol. Furthermore, the colour symbolism of the centre, i.e. the union of all colours, is, in our opinion, *qoŋur*.

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Short Communication

Students' Knowledge in Science: An Evaluation via Hydroponic Kit

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ABSTRACT

Every year, high school students response to choosing a science stream has indicated a declining pattern. It may be due to the lack of technical application of science that students cannot foresee, thus preventing them from having a clear vision of how science and technology could greatly help daily human life. The study aims to assess the knowledge of high school students through STEM education via a project-based learning method using the hydroponic kit. Seventy students from a government school in Kota Bharu, Kelantan, Malaysia, participated in this study. The questionnaire was then evaluated based on the scores and displayed improvement. The mean score for the pre-test of general knowledge was $M=3.8857$,

SD=1.41977, and then it increased to M=6.1857, SD=1.21932 for the post-test. In addition, the mean score for the pre-test of hydroponic system advantages was M=6.2000, SD=1.93068, which increased to M=8.8286, SD=0.65875 for the post-test. Meanwhile, the mean score for the pre-test of disadvantages of the hydroponic system was M=7.2571, SD=2.21121, subsequently increasing to M=9.4286, SD=0.73369 for the post-test. Finally, the mean score for the pre-test of practical knowledge was M=9.3429, SD=2.51307, and then increased to M=15.0571, SD=1.84065 for the post-test. Students' responses to the tests indicated that their interest in the field of science has increased through their involvement in the hydroponic kit project.

Keywords: Hydroponic kit, knowledge, pre and post-test questionnaire, project-based learning, STEM education

INTRODUCTION

Nowadays, STEM is not familiar as it is an essential field needed by a country to develop and thus achieve a high level of modernisation. Western countries, such as the United States, Switzerland, United Kingdom, Sweden, Netherlands, Ireland, Germany, and Denmark, as well as Asia and the Pacific, such as Singapore, Republic of Korea, and China, have all achieved a high level of progress, which symbolised modernisation (United Nations Conference on Trade and Development, 2021). These nations have applied science and technology in developing and achieving advancement

in their respective countries. Since 2003, the United States has been mobilising STEM education to increase science and technology competitiveness. Therefore, it is not surprising that the country has reached a high level of development. STEM education focuses on physical learning through skill-based activities such as investigation, designing, problem-solving, teamwork, and communication. Baran et al. (2015) mentioned that STEM educational activities approach science, technology, engineering, and mathematical disciplines using the knowledge and skills of the 21st Century. In the 21st Century, creativity is an important skill that students need to possess (Stehle & Peters-Burton, 2019); hence, this skill guarantees them a brighter future (Hanif et al., 2019). The alignment of the 21st Century learning components with the 21st Century learning design rubrics has also indicated creativity and innovation as the two main domains of modern-day learning (Stehle & Peters-Burton, 2019). Since the job market has been shifting daily, students need to be well equipped with essential knowledge that is gained theoretically and the actual living skills into which STEM is being integrated.

In general, STEM education is an effort to integrate science, technology, engineering, and mathematics disciplines by correlating the content of a unit or subject with real-time problems. A more modern definition states that STEM education is an interdisciplinary teaching method that integrates science, technology, engineering, mathematics, and other knowledge, skills, and beliefs into these disciplines (Baran et al., 2016; Koul

et al., 2018; Thibaut et al., 2018). Using the STEM approach, students can solve various problems and become innovators, inventors, independents, logical thinkers, and technologically literate people (Widya et al., 2019). Therefore, STEM education is a term that refers to teaching and learning in STEM subjects, which is problem-solving with real-world problems that integrate many other disciplines and skills, such as science, technology, mathematics, and engineering. In recent years, we have been stunned by the decline of students choosing science, technology, engineering, and mathematics (STEM) subjects in schools and higher learning institutions in Malaysia (Ismail et al., 2019). Nowadays, students are less interested in science. They consider science difficult as compared to accountancy and literature. In addition, they may be given less practical exposure to science that can be found around them, which has greatly helped to facilitate daily human work and brought many benefits. It is a matter of great concern to the Ministry of Energy, Science, Technology, Environment and Climate Change (MESTECC) Malaysia. The ministry is responsible for sustainable energy, wealth creation through science and technology, and environmental conservation and must ensure that such knowledge reaches every community and can be adapted. If such a situation does not occur, our country will experience a shortage of skilled and talented human resources in science and technology, as the industry requires.

Recently, the emphasis on STEM in Malaysian secondary schools has increased to provide students with the skills needed in the industry and future careers (Razali, 2021). Therefore, a project-based learning model is deemed suitable to meet these skills because it integrates STEM (Lou et al., 2011). This study aims to assess students' knowledge in school before and after exposure to the hydroponic kit application based on pre-test and post-test questionnaires. The study will also evaluate students' interest in STEM subjects, which incorporate problem-solving skills in real-world situations, and integrate many other disciplines and skills, such as science, technology, mathematics, and engineering. This learning method can increase students' knowledge performance and thus nurture students' interest in STEM, produce quality students in terms of thinking style, creativity, and innovativeness, and become bold enough to face future challenges.

MATERIALS AND METHODS

The study was conducted at a government school in Kota Bharu, Kelantan, Malaysia, from February until November 2020. The selected school was under a pilot project led by the National STEM Association (NSA), which was to be an example for other schools in Kelantan to uphold STEM. The study has conducted five programmes/meetings between the mentors and mentees over nine months. In the meetings, students were introduced to hydroponics and its cultivation methods on (1) how to install a hydroponic kit system, (2) how to prepare

media, (3) how to sow seeds, (4) how to measure fertiliser, and (5) to harvest crops). In the meetings, students were also exposed to problem identification and how to solve problems related to hydroponics so that students would gain knowledge and interest in science. The study subjects were 70 conveniently selected students based on availability and voluntariness, which consisted of 36 male students (51.4%) and 34 female students (48.6%).

The students were required to answer a pre-test questionnaire before the programme started and a post-test questionnaire after the programme ended. The two questionnaires contained 26 questions, comprising a similar set of questions related to project-based learning: hydroponic kit. The questionnaires were trialled, tested, and sent for revision to ensure item comprehension, wording, and adequacy of responses. The content validity was applied by consulting a small sample of panels and experts in a particular area to pass judgement on the suitability of selected questions (Sekaran & Bougie, 2010). The example of questions used and validated by three panels within the expert area of study are (1) what are the four basic requirements for tree growth? (2) what is hydroponic cultivation? (3) why was hydroponic cultivation introduced? The Likert scale was applied from 1–5 (strongly disagree to strongly agree). The experts provided a score with an average of 4.7, which indicated that the experts strongly agreed with all the questionnaire items. The purpose of content validity was to get feedback concerning the suitability, content, layout, and adequacy of questions designed

based on the literature review (Wee & Abas, 2015). For statistical analysis, paired student t-test was used to compare the pre-test and post-test scores, whereby *p* values were calculated using the Statistical Package for the Social Sciences (SPSS) software Version 26. Paired student t-test was utilised to assess school students' knowledge before and after being exposed to hydroponic kits on pre-test and post-test questionnaires. The paired student t-test could help assess the variables, namely knowledge_general, knowledge_advantages, knowledge_disadvantages, and knowledge_practices.

RESULTS

A total of 70 students participated in the pre-test and post-test. The number of correct post-test responses was significantly higher ($p < 0.01$) than pre-test responses (Table 1). However, some items had similar scores for the pre- and post-tests, and some had a large difference in scores for the pre- and post-tests. It was due to the types of questions and students' level of knowledge and understanding before and after they were exposed to the project. There were four sections in the questionnaire: (1) Knowledge_General: Q1: Basic requirements of tree growth; Q2: Definition of hydroponic plants; Q3: The purpose of hydroponic technique introduction; Q4: Types of plants suitable for hydroponic techniques; (2) Knowledge_Advantages: Q5: High-quality production; Q6: Easy to install; Q7: Low cost; Q8: Balanced nutrient; Q9: Suitable for all types of crops; (3) Knowledge_Disadvantages: Q10: Needs a lot of electricity; Q11: Not

environmental-friendly; Q12: Susceptible to disease; Q13: Need frequent watering; Q14: Less clean; (4) Knowledge_Practices: Q15: Hydroponic care measures; Q16: Steps provide hydroponic plants; Q17: How to suit hydroponic plant seedlings; Q18: Effects of exposure to rain; Q19: Causes of hydroponic

plants wither and die; Q20: Hydroponic crop risks; Q21: A suitable place for hydroponic plants; Q22: Hydroponic plant media; and Q23: Characteristics of hydroponic media. The overall mean scores indicated a significant improvement in post-test scores compared to the pre-test scores (Table 2).

Table 1

Student's pre-test and post-test responses (n=70)

Questions	Correct responses (n)		Significance value
	Pre-test	Post-test	
Q1.	70	70	
Q2.	44	64	
Q3.	26	59	
Q4.	65	69	
Q5.	56	70	
Q6.	10	70	
Q7.	29	70	
Q8.	64	70	
Q9.	58	70	
Q10.	41	70	
Q11.	54	70	
Q12.	47	70	
Q13.	58	70	
Q14.	55	70	
Q15.	68	70	
Q16.	66	70	
Q17.	27	70	
Q18.	43	64	
Q19.	70	70	
Q20.	66	69	
Q21.	39	70	
Q22.	66	70	
Q23.	59	70	
Mean±SD	51.35±16.51	68.91±2.76	t=5.339, p-value=0.000*

Note: *Significance levels at 0.1, 0.05, and 0.01

Table 2

Comparison of the student's scores in the pre-and post-tests

Questions	Mean±SD			t	df	P-value
	Pre-test	Post-test	Increase			
Knowledge_General	3.89±1.41	6.19±1.22	2.30±1.62	11.891	69	0.000*
Knowledge_Adv	6.20±1.93	8.83±0.66	2.63±2.08	10.576	69	0.000*
Knowledge_Dis	7.26±2.21	9.43±0.73	2.17±2.34	7.763	69	0.000*
Knowledge_Practices	9.34±2.51	15.06±1.84	5.71±3.31	14.441	69	0.000*

Note: Results are expressed as the mean and standard deviation of the total scores obtained in the pre-and post-tests. Significant (*P*-value) was obtained using a paired samples *t*-test.

*Significance levels at 0.1, 0.05, and 0.01.

The pre-and post-tests were the instruments utilised in measuring the study effect. There was a significant difference in the scores for the pre-test of Knowledge_General (M=3.89, SD=1.42) and post-test of Knowledge_General (M=6.12, SD=1.23); $t(69)=11.99$, $p=0.00$. Other than that, there was also a significant difference in the scores for the pre-test of Knowledge_Advantages (M=6.20, SD=1.93) and the post-test of Knowledge_Advantages (M=8.83, SD=0.66); $t(69)=10.58$, $p=0.00$. A significant difference was also found in the scores of the pre-test for Knowledge_Disadvantages (M=7.26, SD=2.21) and the post-test of Knowledge_Disadvantages (M=9.43, SD=0.73); $t(69)=7.76$, $p=0.00$. Finally, a significant difference was also discovered in the scores of the pre-test for Knowledge_Practices (M=9.34, SD=2.51) and the post-test of Knowledge_Practices (M=15.06, SD=1.84); $t(69)=14.44$, $p=0.00$. The approach of teaching and learning adopted in this project through the application of the hydroponic kit has improved learning ability and increased

knowledge received, which were indicated by the positive response from students. Most students agreed that the Mentor-Mentee of a STEM project-based learning programme through the application of the Hydroponic Kit could help improve their focus and performance, as it is considered a trigger factor to be attentive and push themselves to be more in-depth in their study.

DISCUSSION

The purpose of the study is to see whether the initial test given before the learning process can be improved in the final test. This study assesses school students' knowledge based on the Hydroponic Kit Project. Kanadli (2019) denoted that the advancement in science and technology that educational institutions now require does not only train people who are ready with the knowledge but also trains people who know how to access knowledge and generate new information through their application knowledge. STEM has been characterised as working in the context of complex phenomena or situations on assignments

requiring students to apply knowledge and skills to various disciplines (Honey et al., 2014). The Hydroponic Kit Project covered all the elements found in science, technology, engineering, and mathematics (STEM). It is in line with Hashim et al. (2020), who created a prototype of a water level warning in project-based learning, which was also integrated with STEM. It was supported by Lou et al. (2011), who stated that the STEM-based learning model incorporates all STEM elements into curriculum design.

The data from this study has indicated that STEM project-based learning can improve the general knowledge of school students. The mean score for the pre-test of general knowledge was ($M=3.8857$, $SD=1.41977$) and then increased to ($M=6.1857$, $SD=1.21932$) for the post-test (Table 2). School students were likely to have less direct or indirect exposure to science projects or other advanced materials adopted or applied in their environment. In traditional classrooms, teaching and learning are dominated by teachers, whereby students have minimal opportunity to express their opinions and ideas (Tytler & Aranda, 2015), thus reducing student interaction and limiting them from expressing their views (Chua et al., 2017). Dugger (2010) highlighted that a STEM project-oriented curriculum had been used as a strategy, offering students the opportunity to consider real-world concerns focused on interdisciplinary topics. Moreover, Jeong and Kim (2015) suggested that effective teaching occurs when students are given

learning opportunities to demonstrate, adapt, modify, and transform new knowledge to meet the needs of new contexts and situations. Therefore, such learning methods can add to and improve the school students' general knowledge. Figure 1 shows a briefing and discussion session on the Hydroponic Kit Project between mentors of Universiti Malaysia Kelantan (UMK) students and their mentees from a government school in Kota Bharu, Kelantan. This session was held to develop and cultivate creative thinking among students (Munandar, 1999). Creative thinking can help youngsters to have a fresh perspective from the normal ones instilled in the classroom lesson. It is where the impression of "thinking out of the box" can be instilled through a live hands-on experience conducted by the students with teachers' supervision and participating mentors. Barak and Assal (2018) and Lee et al. (2019) supported this by stating that high-level thinking skills, such as problem-solving, critical thinking, and creative thinking, are key targets in STEM learning in Asia.



Figure 1. Briefing sessions and discussions between mentors and mentees regarding the hydroponic kit project

The study has also found an increase in student's knowledge of the advantages and disadvantages of exposed hydroponic systems. The mean score for the pre-test of hydroponic system advantages was $M=6.2000$, $SD=1.93068$ and then increased to $M=8.8286$, $SD=0.65875$ for the post-test. Meanwhile, the mean score for the pre-test of disadvantages of the hydroponic system was $M=7.2571$, $SD=2.21121$, which then increased to $M=9.4286$, $SD=0.73369$ for the post-test. It shows that the students initially needed to learn more about the advantages and disadvantages of the hydroponic system. However, when given exposure to theory and practice, they were now aware of the importance and benefits of hydroponic systems. One of the outcomes of interest in the pilot project was curiosity. Shah et al. (2018) highlighted that curiosity motivates behavioural exploration and finding answers to the unknown. Banning and Sullivan (2011) supported this argument, stating that the curiosity of young students is very high, as it is a key component that drives exploration and refinement of their perceptions while gathering information and learning from the environment. McGillivray et al. (2015) introduced several affective variables, such as curiosity and interest, and potential rewards associated with remembering interesting information in the future. From the context of sustainability, curiosity is an important driver of inquiry learning and is considered fundamental in scientific literacy. Since exploration, discovery, innovation, and invention often stem from curiosity, there is a strong fundamental contribution of curiosity to sustainability-related issues (Ernst & Burcak, 2019).

Finally, there was a significant increase in practical knowledge, whereby the mean score for the pre-test was $M=9.3429$, $SD=2.51307$, and then increased to $M=15.0571$, $SD=1.84065$ for the post-test. Therefore, practice-based learning is very suitable for students so they can go to the field and get their hands dirty by doing activities rather than just sitting in class, which reduces students' interaction and limits their views (Heng et al., 2017). Amongst the activities is the installation of hydroponic equipment (Figure 2), where the students were exposed to elements of engineering and technology found in the design and technology used. The equipment consists of pipes (large and small sizes), basins, and water pumps. The installation of such equipment requires the creativity and thinking skills of students. Next was the preparation of media (Figure 3), where the elements of scientific knowledge were revealed to students: how to select the correct media such as cocopeat, Rockwool, sponge, and others. Such selection also plays an important role in absorbing water and nutrients and adapting to the plants to be planted. The following process measured and mixed the fertiliser (Figure 4). For this activity, mathematical elements were exposed to the students. The materials needed were fertilisers A and B, beakers, and syringes. Fertilisers must be mixed in proportions to ensure that the plants have the needed nutrients. The last process was to lay the seeds (Figure 5). Figure 6 shows the hydroponic kit that yielded results. These activities incorporated the STEM elements practised in Malaysia and other developed countries.



Figure 2. The picture shows students installing hydroponic equipment



Figure 3. The picture shows a demo of media preparation by STEM instructors



Figure 4. The picture shows students being taught to mix fertiliser with the correct dosage



Figure 5. The picture shows students sowing seeds into plant pots



Figure 6. The picture shows a hydroponic kit that has borne fruit

Overall, the mean score for all knowledge in this study indicated an improvement after applying STEM activities based on the Hydroponic Kit Project in secondary school. Grossnickle (2016) supported the notion by defining curiosity as the desire for new knowledge, information, experience, or stimuli to bridge an unknown gap. Additionally, the encouragement received from mentors and teachers is also crucial in determining the effectiveness of STEM Mentor-Mentee project-based learning.

Therefore, such learning methods are the learning of the new millennium or so-called new norms that need to be applied in all secondary and primary schools in the country. Hopefully, this method can attract students to choose science as their main choice to further their studies to a higher level. There has been a drastic decline in the selection of students in science majors at the tertiary level in recent times due to the lack of such learning approaches, which is of great concern to universities and industry. University and industry collaboration are critical in accelerating the effectiveness of STEM implementers in schools (Tumuti et al., 2013). Anwar et al. (2018) and Yuk (2008) mentioned that such collaboration could provide teachers and students with a broad knowledge of real-life contexts that could enrich the teaching and learning process and equip students to perform future career development. It can prepare students to face the advancement in science and technology and drive the country towards being a developed and competitive nation in the future (Hanif et al., 2019).

CONCLUSION

In conclusion, the Mentor-Mentee of STEM project-based learning method using the hydroponic kit can increase students' knowledge and understanding of science, technology, engineering, and mathematics (STEM). It can be seen through the mean score for all knowledge in this study which has indicated an improvement after applying STEM activities based on the Hydroponic Kit Project in secondary school. Grossnickle (2016) supported the notion by defining curiosity as the desire for new knowledge, information, experience, or stimuli to bridge an unknown gap. Such learning methods can also indirectly increase creativity and innovation and apply thinking skills to students so they can be prepared for future challenges. It is hoped that such learning methods can cultivate and attract students from primary and secondary levels to choose STEM majors when they move to higher education institutions later. Other than that, the support system in the educational system should also play an important role in encouraging students to be more involved with STEM-based education. Teachers, specifically, play an essential role in dictating the aftermath of the young generation (Shaharuddin et al., 2020). The noble profession, in precise, is also a key player in the organisational setting of schools due to their close engagement with students. Therefore, teachers and parents must work hand in hand to ensure that students nowadays are more enthusiastic and passionate about making STEM the number one choice in their future endeavours. With

the advancement of education, the future generation will be much more aware of the measures that need to be taken in facing uncertain conditions of today's new way of life and the pandemic.

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Predictors of Massive Open Online Courses (MOOC) Learning Satisfaction: A Recipe for Success

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ABSTRACT

Massive Open Online Courses (MOOCs) have recently gained great attention. However, the biggest challenge to the success of MOOCs is their low completion rate. During the lockdown of the COVID-19 pandemic, MOOCs were in high demand by many higher education institutions to replace their face-to-face lessons. MOOCs have great potential to grow and reinvent the way of learning in the 21st century. This study uses the Virtual Learning Environment (VLE) effectiveness model to understand how the five key factors (learner, instructor, course, technology system, and interactivity) influence student learning satisfaction from a holistic approach and determine the best predictor of student learning satisfaction in the MOOC learning environment. A set of online data based on a 5-point Likert scale was collected from 333 undergraduate students from the top five public universities in Malaysia whose students are actively using MOOCs in their learning. The Partial Least Squares Structural Equation Modelling (PLS-SEM) technique was used to analyse the data. The empirical results revealed that all factors significantly influence student learning satisfaction positively. Learner and interactivity factors were the strongest predictors in determining student learning satisfaction in MOOCs. These findings provide

an empirically justified framework for developing successful online courses such as MOOCs in higher education.

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INTRODUCTION

Massive Open Online Courses (MOOCs) are a recognised form of learning in today's borderless digital world because they provide more online learning opportunities to people who prefer to learn at their own pace. Teaching and learning in the twenty-first 21st century are no longer limited to a traditional classroom setting but are now more location-independent and individualisation-based. During the COVID-19 lockdown, this type of learning mode (e.g., MOOCs) has become significantly important and highly demanded by many students studying in higher education institutions.

Despite the increasing growth of MOOCs, one of the issues that have hampered their success is the low completion rate. Many participants who join MOOCs abandon the course even before completing it. Previous research has found that the primary cause of this problem is low satisfaction in student learning (Albelbisi et al., 2021; Albelbisi & Yusop, 2020; Albelbisi & Yusop, 2019; Gameel, 2017; Wu & Chen, 2017), which is linked to several critical factors such as pedagogical rigour (Hew et al., 2020), and low learner motivation (Gameel, 2017; Gomez-Zermeno & de La Garza, 2016; Hew et al., 2020).

Although many studies have been conducted on factors that influence students' learning experiences, more research needs to be done holistically to understand MOOCs (Jansen et al., 2016). Most studies on MOOCs have taken a narrow conceptual approach, focusing on either human (e.g.

Hew et al., 2020) or non-human factors (e.g. Kuo et al., 2014; Kuo & Belland, 2016; Zhang & Lin, 2020). However, more explorations from a broader perspective are needed, where all factors (learner, instructor, course, technology system, and interactivity) are systematically investigated, including how each of these factors relates to one another. Such research is essential as it may provide a more comprehensive framework for evaluating MOOC effectiveness and determining the best predictor of students' learning satisfaction. At the moment, determining the best predictor to improve students' learning satisfaction is ambiguous and uncertain. However, it is critical, particularly in assisting stakeholders in identifying which factors are the most crucial to focus on and prioritising improving the effectiveness of MOOCs.

As a result, this study investigates a broader range of factors influencing student learning satisfaction in MOOCs and identifies the best factor to predict student learning satisfaction in MOOCs. The following research questions guide the study from this point of view:

1. How do the learner, instructor, course, technology system, and interactivity influence students' satisfaction in the MOOC learning environment?
2. What is the best predictor of students' satisfaction in the MOOC learning environment?

LITERATURE REVIEW

MOOC

Massive Open Online Courses (MOOCs) are a relatively new learning model for delivering online courses to students. It is considered *massive* with its infinite scalability, *open* with no prerequisites, *online* with its web-based delivery, and *courses* with its well-organised curriculum design (Bates, 2014). It was founded in 2008 by Stephen Downes and George Siemens and was popularised by world-renowned universities such as MIT, Harvard, and Stanford, resulting in the emergence of numerous prestigious MOOC platforms such as Coursera, Udacity, Swayam, edX, FutureLearn, and OpenLearning (Albelbisi & Yusop, 2019).

Generally, MOOCs are divided into two categories: cMOOC and xMOOC. cMOOC stands for “connectivist MOOC” (Rodriguez, 2012), facilitating communication and interaction among participants in the learners’ network. In contrast, xMOOC, which stands for “extension MOOC,” allows students to learn by completing tasks assigned by course instructors (Dubosson & Emad, 2015). xMOOC is a more traditional method of learning in which a pre-recorded video lecture is combined with tests, interactive quizzes, or other computer-graded assessments (Siemen, 2013). However, different types of MOOCs are emerging globally, such as Little Open Online Courses (LOOC), Small Online Private Courses (SPOC), and Blended Massive Open Online Courses (bMOOC), where the definition of MOOC remains ambiguous (Yousef et al., 2014).

Students Learning Satisfaction with MOOC

Students learning satisfaction refers to how positive they feel about their academic experience (Rajabalee & Santally, 2021). The use of students’ learning satisfaction as a measurement has a relatively high degree of validity and reliability in evaluating the effectiveness of online learning (Weng et al., 2015; Zhao, 2016), including MOOCs (Albelbisi et al., 2021; Bryant, 2017; Daneji et al., 2019).

Nonetheless, past studies have examined students’ learning satisfaction based only on a specific point of view, such as from an attitudinal perspective (e.g. Joksimović et al., 2018; Li et al., 2017), course design (e.g. Gameel, 2017; Goh et al., 2017), technical aspect (e.g. Albelbisi et al., 2021; Alzahrani & Seth, 2021), and interactions (e.g. Kuo & Belland, 2016; Zhang & Lin; 2020) which resulted in a narrow view of what contributes towards learning satisfaction. As a result, it is critical to investigate the relationships between a variety of multidimensional factors at the same time and develop a model that can predict student satisfaction in a MOOC learning environment. In order to close the gap, this study used Piccoli et al.’s (2001) virtual learning environment effectiveness model as the foundation to assess students’ learning satisfaction, which was then used as a metric to assess MOOC effectiveness.

Virtual Learning Environment (VLE) Effectiveness Model

The VLE effectiveness model assesses a web-based distance learning course’s

effectiveness in terms of performance, self-efficacy, and satisfaction. Human dimensional factors include student and instructor factors, while design dimensional factors include learning models, technology quality, content design, learner control, and interaction. All these factors play important roles in maximising learning effectiveness (Piccoli et al., 2001).

The VLE effectiveness model has been widely used in research on the effectiveness of educational technology learning environments such as learning management systems (Ozkan & Koseler,

2009) and e-learning (Asoodar et al., 2016; Eom et al., 2006), thus, was considered a natural fit for this research as it covers nearly all key factors in human and non-human dimensions that influence students' learning experience and performance in distance learning environments like MOOCs. To further extend the application of the VLE model, an in-depth literature review was conducted from 2016 to 2021 to identify relevant factors vital to online learning, e-learning, and distance learning. A summary of the literature is presented in Table 1.

Table 1

Relevant references on the key factors influencing students' learning satisfaction in online learning, e-learning, and distance learning

Author (s)	Factors
Eom and Ashill (2016)	Student motivation, instructor feedback and facilitation, dialogue with students, dialogue with the instructors, course structure, self-regulation
Asoodar et al. (2016)	Learner attitude, learner computer anxiety, instructor presence, instructor ability, course flexibility, course quality, technology quality, internet quality, perceived usefulness, perceived ease of use, diversity in assessment, perceived interaction with others, university support
Kuo and Belland (2016)	Learner-content interaction, learner-instructor interaction, learner-learner interaction
Goh et al. (2017)	Course design, interaction with the instructor, interaction with peer student
Gameel (2017) *	Perceived usefulness, teaching and learning aspects, learner-content interaction
Li et al. (2017)	Students' self-efficacy, students' intrinsic motivation, and students' attitude
Chen et al. (2018) *	Human-message interaction, motivation
Cidral et al. (2018)	Collaboration quality, service quality, information quality, system quality, learner computer anxiety, instructor attitude, diversity assessment, learner perceived interaction with others

Table 1 (Continue)

Author (s)	Factors
Joo et al. (2018) *	Self-determination, perceived ease of use, perceived usefulness
Pozón-López et al. (2019) *	Quality of the course, entertainment value, usefulness
Lu et al. (2019) *	Perceived usefulness, perceived interest, flow, experience
Zhang and Lin (2020)	Learner-content interaction
Hew et al. (2020) *	Course instructor, content, assessment, course schedule
Venkatesh et al. (2020)	Student characteristics, cognitive factors, social environment
Almaiah et al. (2020)	Trust, self-efficacy, culture, system, and technology quality
Alkhateeb and Abdalla (2021)	Perceived ease of use, perceived usefulness, information quality, system quality, service quality
Alzahrani and Seth (2021)	Service quality, information quality
Albelbisi et al. (2021) *	System quality, information quality, service quality

Note: * Refer to MOOCs studies

Following a review of the prior literature, five key factors were identified and used to assess student learning satisfaction: learner, instructor, course, technology system, and interactivity. Eleven sub-factors were further identified to measure these key factors. Anxiety and motivation were the sub-factors in the *learner factors*. Instructor feedback and facilitation were identified as sub-factors in the *instructor factors*, while course structure and content were identified as sub-factors in the *course factors*. The usefulness and ease of use were sub-factors of *technology systems*. Finally, learner-instructor, learner-learner, and learner-content interactivities were identified in the *interactivity factors*. Researchers actively discussed these factors from 2016 to 2021 in the online distance learning environment context. However, they have never been

combined into a single framework in the context of a MOOC learning environment from a holistic standpoint, subject to validation and relationship examination. As a result, this study proposes a research model by incorporating the key factors (Figure 1).

Research Model and Hypotheses Development. The proposed model (Figure 1) is a three-stage hierarchical reflective measurement model because the construct itself causes the indicators of each construct are, and the items are interchangeable (Hair et al., 2017). We propose that five factors influence student learning satisfaction in the MOOC environment: learner, instructor, course, technology system, and interactivity, which make up the first-order constructs of the model. The second-order constructs

consist of eleven factors: anxiety, motivation, feedback, facilitation, structure, content, usefulness, ease of use, learner-instructor interactivity, learner-learner interactivity, and learner-content interactivity.

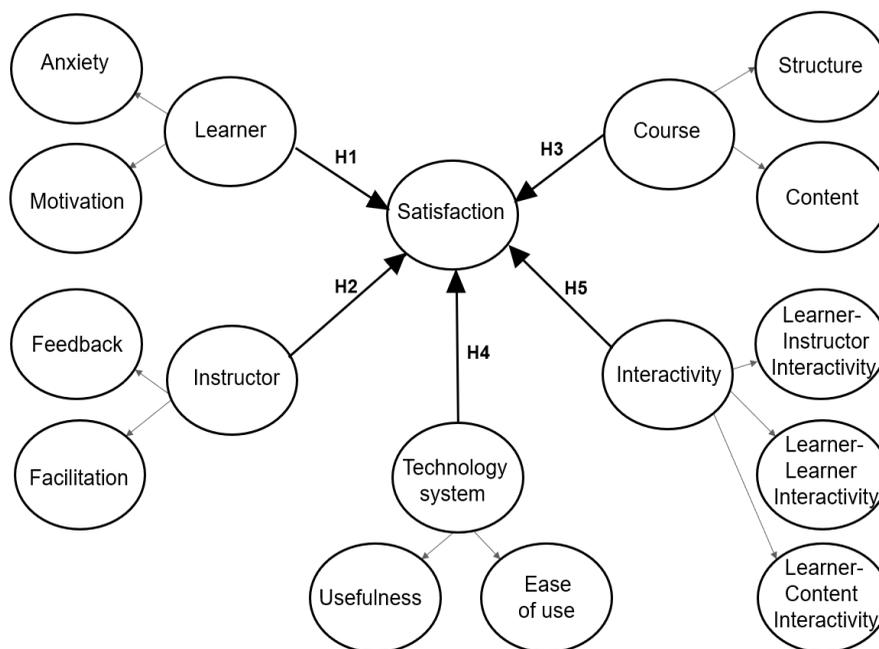


Figure 1. The proposed model

Learner Factors. ‘Learner’ in this study refers to the students enrolled in MOOC courses. Learners’ motivation (Asoodar et al., 2016; Cidral et al., 2018; Eom & Ashill, 2016) and anxiety (Asoodar et al., 2016) strongly correlate to learning satisfaction. For example, Sun et al. (2008) discovered that if a learner is afraid of using technology for e-learning, the barrier to e-learning increases, and the learner’s ability to use the e-learning courses suffer. On the other hand, if the students are more motivated (either internally or externally), this encourages them to put more effort into their work and even promotes self-studying awareness

(Abdel-Jaber, 2017; Eom & Ashill, 2016; Li et al., 2017). As learner factors are important in determining satisfaction in VLEs and MOOCs, we hypothesise:

H1: Learner factors positively influence student learning satisfaction in MOOCs

Instructor Factors. The MOOCs’ facilitator, or teacher, is referred to as the instructor in this study. The learner’s perceptions of instructors’ attitudes, such as feedback and facilitation skills, strongly influence student learning satisfaction (Asoodar et al., 2016; Eom et al., 2006; Selim, 2007; Sun et al., 2008). Prompt feedback from

the instructor can help students improve their cognitive skills and knowledge, activate metacognition, and increase their motivation to learn (Zimmerman, 1989). Furthermore, instructors can provide guidance, effectively demonstrate the use of e-learning communication tools, transfer their knowledge to learners in different locations (Leidner & Jarvenpaa, 1995), and even empower students with freedom and responsibility. As a result, students' interest in learning will be stimulated, positively impacting their learning experience and satisfaction. Therefore, we hypothesise:

H2: Instructor factors positively influence student learning satisfaction in MOOCs

Course Factors. In this study, the course refers to the content knowledge design of MOOCs in achieving what learners expect to learn (Moore & Kearsley, 1996). Learners' perceptions of the course structure (Eom & Ashill, 2016) and perceived value of the course content are two major components that measure the quality of the course content knowledge (Albelbisi et al., 2021; Alzahrani & Seth, 2021; Hew et al., 2020; Sun et al., 2008; Yang et al., 2017). When online learners are pleased and satisfied with the presentation of content knowledge (e.g., well-organised content) and the quality of the content knowledge (e.g., required, relevant, useful, comprehensive, intelligible, up-to-date, and accurate content), then the online learning success rate increases (Naveed et al., 2017). Therefore, we hypothesise that:

H3: Course factors positively influence student learning satisfaction in MOOCs

Technology System Factors. The technology system in this study refers to the desired performance characteristics of MOOCs. Students in MOOCs perform their weekly learning activities using technology features and functions such as video, chat box, audio, and online discussion forums (Almaiah et al., 2020). As a result, high-quality technological attributes are critical for the successful implementation of online learning (Naveed et al., 2017). A good online learning system can be measured by its ease of use (Asoodar et al., 2016; Gameel, 2017; Lu et al., 2019; Sun et al., Pozón-López et al., 2019; 2008; Wu & Chen, 2017) and its usefulness in enhancing learning performance (Alkhateeb & Abdalla, 2021; Asoodar et al., 2016; Joo et al., 2018; Wu & Chen, 2017). When a learning system can assist learners in gaining the desired knowledge, it gives the online course a sense of usefulness (Lu et al., 2019). Furthermore, when a learning system is simple to use, it encourages students to actively participate in the online course, resulting in increased student learning satisfaction (Joo et al., 2018). Therefore, we hypothesise that:

H4: Technology system factors positively influence student learning satisfaction in MOOCs

Interactivity Factors. Interactivity refers to learning engagement in the course. Learner-instructor, learner-learner, and learner-content interactions are all three

dimensions of interaction in learning, according to Kuo and Belland (2016). Human interaction (e.g., learner-instructor and learner-learner interactions), which includes guidance, encouragement, and motivational and emotional support, has been shown to positively impact student learning motivation and interest in a subject matter via scaffolding (Murphy & Rodriguez-Manzanares, 2009). Learners can verbalise what they have learned in the course and articulate their current understanding when they actively participate in intellectual exchanges with fellow learners or instructors (Eom et al., 2006). It could speed up the learning process, resulting in better results and satisfaction (Alqurashi, 2018; Eom & Ashill, 2016; Hew et al., 2020).

Non-human interaction (learner-content interaction) is also important in improving student learning outcomes (Kuo & Belland, 2016). It is because e-learners spend most of their time interacting with course learning materials by processing information, digesting content, and learning from a computer screen (Alqurashi, 2018). Moreover, learner-content interaction, as opposed to other forms of interaction, is the strongest predictor of learner satisfaction in the virtual learning environment, according to Kuo et al. (2014) and Zhang and Lin (2020). Therefore, we hypothesise that:

H5: Interactivity factors positively influence student learning satisfaction in MOOCs

METHODS

Population and Sampling Method

Three hundred thirty-three undergraduate students from Malaysia's top five public universities actively using MOOCs in their studies were invited to participate. Table 2 shows the demographics of the participants, with 41.1% from Universiti Malaysia Sarawak (UNIMAS), 21.9% from Universiti Utara Malaysia (UUM), 15% from Universiti Kebangsaan Malaysia (UKM), 12.9% from Universiti Teknologi MARA (UiTM), and 9% from Universiti Teknikal Malaysia Melaka (UTeM). Most participants (64.3%) were female, with 55.6% having no prior learning experience with MOOCs and 44.4% having prior MOOC learning experience. Regarding the voluntariness of using MOOCs for learning, 69.1% of the participants said it was mandatory, while 30.9% said they did it voluntarily. On top of that, only 41.4% of the participants had good internet speed during their learning with MOOCs.

The current study's population is dispersed across many students enrolled in MOOCs. Some MOOCs (e.g., from UNIMAS, UKM, and UUM) have a relatively high number of students due to the uneven student enrolment number of Malaysia's public universities. As a result, cluster sampling is used in this study to ensure that the sample is chosen fairly and representative of the population (Taherdoost, 2018).

Table 2

Summary of the participants' demographics

Variable	Category	Frequency (n = 333)	Valid percent (%)
Gender	Male	119	35.7
	Female	214	64.3
Prior experience with MOOC	Yes	148	44.4
	No	185	55.6
Compulsory to use MOOC	Yes	230	69.1
	No	103	30.9
Internet speed during MOOC	Poor	10	3.0
	Moderate	185	55.6
	Good	138	41.4
University	UKM	48	15.0
	UUM	74	21.9
	UiTM	34	12.9
	UNIMAS	139	41.1
	UTeM	38	9.0

Construct Measurement

Items in the survey were adapted from the relevant online learning, e-learning, and distance learning literature according to

the rule of thumb for internal reliability consistency (Hair et al., 2017). In addition, the construct items and sources were adapted from the literature (Table 3).

Table 3

Items of the construct and sources

Constructs	Items	Questions	Source
Anxiety	AX1	I feel comfortable learning with MOOCs	Sun et al. (2008)
	AX2	I feel at ease learning with MOOCs	
	AX3	I feel calm learning with MOOCs	
	AX4	I feel pleasant learning with MOOCs	

Table 3 (Continue)

Constructs	Items	Questions	Source
Motivation	MT1	I prefer learning materials that really challenge me so I can learn new things in MOOCs	Eom and Ashill (2016)
	MT2	I choose the assignments that I can learn from even if they do not guarantee a good grade in MOOCs	
	MT3	I do all that I can to make my assignments turn out perfectly in MOOCs	
	MT4	I work hard to get a good grades even if I do not like learning with MOOCs	
	MT5	I want to do well in MOOCs because it is important to show my ability to my family, parents, friends, lecturers, or others	
	MT6 *	I like to be one of the most recognised students in MOOCs	
Feedback	FD1	The instructor of MOOC is responsive to students' concerns	Eom et al. (2006)
	FD2	The instructor of MOOC provides timely feedback to the students	
	FD3 *	The instructor of MOOC provides helpful feedback to the students	
	FD4	The instructor of MOOC cares about my learning	
	FD5	The instructor of MOOC has a genuine interest in students	
Facilitation	FC1	The instructor of MOOC invites students to ask questions and receive answers	Selim (2007)
	FC2	The instructor of MOOC encourages students to participate in the course	
	FC3	The instructor of MOOC has good presentation skills that hold my interest in learning	
	FC4	The instructor of MOOC is actively involved in facilitating the course	
	FC5	The instructor of MOOC is knowledgeable	

Table 3 (Continue)

Constructs	Items	Questions	Source
Structure	ST1	The MOOC is well organised in a logical manner	Eom and Ashill (2016)
	ST2	The MOOC's objectives are clearly communicated	
	ST3	The MOOC is structured with an effective range of assessments	
	ST4	The MOOC is structured effectively with text, graphics, or video	
Content	CT1	The content of MOOC is up to date	Yang et al. (2017)
	CT2	The content of MOOC is relevant to the topic	
	CT3	The content of MOOC is covered with an appropriate degree of breadth	
Usefulness	UE1	Learning with MOOCs improves my learning performance	Wu and Chen (2017)
	UE2	Learning with MOOCs helps me accomplish my learning objectives more quickly	
	UE3	Learning with MOOCs increases my productivity in completing assignments	
Ease of use	EU1	Learning with MOOCs is easy for me	Wu and Chen (2017)
	EU2	Learning with MOOCs does not require a lot of mental effort	
	EU3	Learning with MOOCs is simple	
Learner-instructor interactivity	LI1	Positive interaction level between the instructor and students is high in MOOCs	Eom and Ashill (2016)
	LI2	Positive interaction between the instructor and students helps me improve the quality of the learning outcomes in MOOCs	
	LI3	Positive interaction between the instructor and students is an important learning component in MOOCs	
	LI4	Positive interaction with the instructor frequently happens in MOOCs	

Table 3 (Continue)

Constructs	Items	Questions	Source
Learner-learner interactivity	LL1	Positive interaction level among students is high in MOOCs	Eom and Ashill (2016)
	LL2	Positive interaction among students helps me improve the quality of the learning outcomes in MOOCs	
	LL3	Positive interaction among students is an important learning component in MOOCs	
	LL4	Positive interaction among students frequently happens in MOOCs	
Learner-content interactivity	LC1	MOOC materials help me to understand the topic easily	Kuo et al. (2014)
	LC2	MOOC materials stimulate my interest in this course	
	LC3	MOOC materials help me to learn new knowledge	
Satisfaction	SA1 *	I would gladly do so if I have an opportunity to take another course via MOOCs	Sun et al. (2008)
	SA2	I am pleased with how MOOCs are conducted	
	SA3	I would recommend MOOCs to others	
	SA4	I feel that MOOCs are useful to me in general	
	SA5	I am satisfied with my overall learning experience of MOOCs	

Note: Items with an asterisk are deleted after data analysis

Data Collection

This cross-sectional study used an online survey questionnaire to collect data from participants. The online survey questionnaire was sent through the chat box in the OpenLearning platform, Malaysia's national MOOC platform, with a 5-point Likert scale (1 = Strongly Disagree, 2 = Disagree, 3 = Neutral, 4 = Agree, 5 = Strongly Agree). During the data collection process, tokens of appreciation were distributed to encourage participant responses (Leary, 2014). Although 410 responses were received, 77 were removed due to duplicates and incomplete responses, leaving 333 valid responses that could be further analysed.

Data Analysis

The collected data were analysed using the Partial Least Square Structural Equation Modelling (PLS-SEM) technique (Hair et al., 2017) with Smart PLS version 3 (SmartPLS GmbH, Germany). The analysis involved two main steps: the evaluation of the reflective measurement (outer) model and the evaluation of the structural (inner) model using the Bootstrapping method.

In step one of the PLS-SEM procedure, evaluation of the reflective measurement involved assessment of internal consistency reliability (Cronbach's alpha and composite reliability), convergent validity (Average Variance Extracted (AVE) and factor loading), and discriminant validity (Fornell-Larcker criterion, heterotrait-monotrait (HTMT) ratio of correlation criterion) (Fornell & Larcker, 1981; Hair et al., 2017; Schumacker & Lomax, 2004).

Internal consistency reliability was used to measure the reliability of survey items in a construct. Internal consistency reliability is achieved when all items of such measures reflect the same underlying construct (Myrtveit & Stensrud, 2012). Cronbach's alpha (α) and composite reliability are two indicators to measure the internal consistency of reliability. To achieve internal consistency reliability, the recommended level of α should exceed .70, and the composite reliability value should be between .70 and .95 (Hair et al., 2017).

Convergent validity was used to measure the degree of correlation between items in the same construct (Campbell & Fiske, 1959), such as factor loading and Average Variance Extracted (AVE) indicators. It is achieved when items in the same construct are strongly correlated (Bagozzi & Yi, 2012), when each item load of the construct is greater than 0.50, and the value of the Average Variance Extracted (AVE) of each construct exceeds 0.50 (Hair et al., 2017).

Discriminant validity was used to measure the degree of correlation between items in different constructs (Campbell & Fiske, 1959), such as the Fornell-Larcker criterion and the heterotrait-monotrait (HTMT) ratio of the correlation criterion indicators. It is achieved when items in a particular construct are not highly correlated with any items in other constructs (Hulland, 1999). To achieve this, the square root of the particular construct's AVE should be the highest correlation with any other constructs, and the HTMT value should be lower than .90 (Hair et al., 2017).

In the second step of the PLS-SEM procedure, the evaluation of the structural model used to test the hypothesis was carried out, which involved path coefficients (β), t -statistic values, the coefficient of determination (R^2), effect size (f^2), and the predictive relevance (Q^2).

The path coefficients (β) represent the strength of the hypothesised relationships between the constructs. A bootstrapping technique with 5,000 resamples was conducted to estimate the beta (β) and corresponding t values as recommended by Chin et al. (2003). The greater the beta coefficient (β), the stronger the effect of an exogenous construct on the endogenous construct. Path coefficients with a value close to 1 represent a strong positive relationship, and conversely, a value closer to -1 represents a strong negative relationship. The overall effect size (f^2) measures the degree of impact of the path relationship. Following Hair et al. (2017), the cut-off of $f^2 = 0.35$ is considered a large effect size, $f^2 = 0.15$ is regarded as a medium, and $f^2 = 0.02$ is considered small. Predictive relevance for the structural model was evaluated using Q^2 (Tenenhaus et al., 2005), so it can be considered an indicator of the quality of the structural model. The interpretation of Q^2 followed that of Hair et al. (2017), with a

value of > 0 indicating adequate predictive relevance and a value of < 0 indicating poor predictive relevance. R^2 values of 0.25, 0.50, and 0.75 for target constructs are considered weak, moderate, and substantial based on Henseler et al. (2009).

RESULTS

Modelling the Survey Data

Items of the construct in the (outer) measurement model met all the evaluation criteria of reliability and validity (Table 4). The factor loadings of the measurement items ranged between 0.704 and 0.924, which meets the recommended level of α and confirms the relative importance of each item to the underlying construct factor. The α values for all construct factors were .790-.911, and CR values were .871-.937, indicating the scales had acceptable reliability. AVE values were adequate to accept for motivation, feedback, facilitation, structure, and learner-learner interactivity, which ranged between 0.614 to 0.787, and satisfactory for anxiety, content, usefulness, ease of use, learner-instructor interactivity, learner-content interactivity, and student learning satisfaction, which ranged between .704 and .790, and so convergent validity was established for this studied model.

Table 4
Indicators of internal consistency reliability and convergent validity

Constructs	Items	Loadings	α	CR	AVE
Anxiety	AX1	0.836	.911	.937	0.790
	AX2	0.903			
	AX3	0.924			
	AX4	0.888			

Table 4 (Continue)

Constructs	Items	Loadings	α	CR	AVE
Motivation	MT1	0.770	.842	.888	0.614
	MT2	0.776			
	MT3	0.857			
	MT4	0.704			
	MT5	0.804			
Feedback	FD1	0.771	.802	.871	0.628
	FD2	0.763			
	FD4	0.801			
	FD5	0.833			
Facilitation	FC1	0.774	.860	.900	0.643
	FC2	0.801			
	FC3	0.815			
	FC4	0.850			
	FC5	0.765			
Structure	ST1	0.849	0.847	.897	0.687
	ST2	0.751			
	ST3	0.882			
	ST4	0.827			
Content	CT1	0.806	.790	.878	0.706
	CT2	0.895			
	CT3	0.817			
Usefulness	UE1	0.874	.860	.915	0.782
	UE2	0.917			
	UE3	0.861			
Ease of use	EU1	0.850	.790	.877	0.704
	EU2	0.873			
	EU3	0.793			
Learner-instructor interactivity	LI1	0.870	.877	.916	0.732
	LI2	0.884			
	LI3	0.869			
	LI4	0.795			

Table 4 (Continue)

Constructs	Items	Loadings	α	CR	AVE
Learner-learner interactivity	LL1	0.800	.811	.875	0.637
	LL2	0.863			
	LL3	0.784			
	LL4	0.742			
Learner-content interactivity	LC1	0.852	.817	.891	0.732
	LC2	0.875			
	LC3	0.840			
Satisfaction	SA2	0.733	.867	.910	0.718
	SA3	0.907			
	SA4	0.903			
	SA5	0.835			

Note: α = Cronbach’s alpha, CR = Composite Reliability, AVE = Average Variance Extracted

The studied model also met all the evaluation criteria for discriminant validity. The square root of each construct’s AVE was greater than the correlation involving the constructs, confirming the criterion of

Fornell and Larcker (1981). From Table 6, the results also passed the HTMT criterion test, in which the values do not exceed 0.90 (Table 5).

Table 5

The Fornell-Larcker criterion test for discriminant validity

	AX	CT	EU	FC	FD	LC	LI	LL	MT	ST	SA	UE
AX	0.889											
CT	0.544	0.840										
EU	0.513	0.475	0.839									
FC	0.430	0.562	0.329	0.802								
FD	0.336	0.391	0.289	0.585	0.792							
LC	0.541	0.602	0.486	0.514	0.333	0.856						
LI	0.581	0.546	0.461	0.521	0.553	0.515	0.855					
LL	0.431	0.490	0.403	0.511	0.405	0.568	0.613	0.798				
MT	0.703	0.549	0.402	0.453	0.380	0.454	0.689	0.495	0.784			
ST	0.450	0.692	0.423	0.590	0.370	0.579	0.422	0.503	0.426	0.829		
SA	0.720	0.606	0.546	0.475	0.402	0.690	0.677	0.520	0.675	0.528	0.848	
UE	0.475	0.464	0.659	0.401	0.299	0.438	0.387	0.489	0.362	0.459	0.512	0.884

Note: Values in bold should be greater than the remaining values in each column

Table 6

The heterotrait-monotrait (HTMT) criterion test for discriminant validity

	AX	CT	EU	FC	FD	LC	LI	LL	MT	ST	SA	UE
AX	1											
CT	0.643	1										
EU	0.612	0.607	1									
FC	0.488	0.687	0.402	1								
FD	0.391	0.489	0.367	0.702	1							
LC	0.625	0.751	0.610	0.614	0.407	1						
LI	0.650	0.656	0.563	0.601	0.656	0.607	1					
LL	0.477	0.603	0.503	0.606	0.496	0.684	0.697	1				
MT	0.793	0.668	0.495	0.528	0.451	0.539	0.796	0.563	1			
ST	0.506	0.842	0.519	0.696	0.449	0.691	0.482	0.606	0.490	1		
SA	0.807	0.737	0.668	0.558	0.477	0.833	0.773	0.600	0.775	0.614	1	
UE	0.534	0.562	0.795	0.463	0.363	0.521	0.441	0.592	0.419	0.541	0.593	1

Note: Values in non-bold should not be lower than 0.90

The next step was to evaluate the (inner) structural model. All factors (i.e., learner, instructor, course, technology system, and interactivity) have significantly and positively influenced student learning satisfaction at a 5% significance level with $\beta = 0.299, 0.097, 0.099, 0.112, \text{ and } 0.253$, respectively (Table 7). Although the path coefficients were significant, the effect sizes may have been too small to attract

attention. Therefore, assessing the relevance of the significant relationship is important by considering the f^2 . The effect size of the learner factors on students' learning satisfaction was the largest ($f^2 = 0.124$), while the effect size for the other four paths was small (Table 7). This result indicates that learner factor(s) is the best predictor of student learning satisfaction in MOOCs.

Table 7

Path coefficients, t statistics, and effect size (f^2)

	Hypothesised paths	Std β	Std error	t value	p-value	f^2
H1	Learner \rightarrow Satisfaction	0.299	0.048	6.199	0.000**	0.124
H2	Instructor \rightarrow Satisfaction	0.097	0.058	1.680	0.047*	0.015
H3	Course \rightarrow Satisfaction	0.099	0.052	1.922	0.027*	0.015
H4	Technology system \rightarrow Satisfaction	0.112	0.048	2.362	0.009**	0.027
H5	Interactivity \rightarrow Satisfaction	0.253	0.060	4.208	0.000**	0.067

Note: (t-values > 1.65 where $p < 0.05^*$), (t-values > 2.33 where $p < 0.01^{**}$)

Table 8

The values of R^2 and Q^2

Construct	R^2	Result (R^2)	Q^2	Result (Q^2)
Satisfaction	0.716	Moderate	0.503	Predictive relevance

Note: (if R^2 value is 0.25 = weak, 0.50 = moderate, 0.75 = substantial); (if $Q^2 > 0$, predictive relevance)

On top of that, this study model has sufficient predictive relevance as the Q^2 value exceeded the threshold limit ($Q^2 = 0.503$) (Table 8). Similarly, for R^2 , the value for the student learning satisfaction construct is 0.716, meaning that the five exogenous constructs (learner, instructor, course, technology system, and interactivity) explain 71.6% of the variance in this endogenous construct (student learning satisfaction), which is a nearly substantial effect. In sum, the results showed that the five key factors play vital roles in providing high student learning satisfaction in MOOCs.

DISCUSSION

This study uses PLS-SEM analysis to examine the influence of five key factors on students' MOOC learning satisfaction (i.e., learner, instructor, course, technology system, and interactivity). Findings revealed that all five key factors significantly influence students' learning satisfaction. The findings also showed that the learner factor is the best predictor of learning satisfaction and that interactivity has a relatively large impact on increasing student learning satisfaction in MOOCs compared to other key factors (i.e., instructor, course, and system technology).

To put it another way, the findings of this study clearly showed that, first, the conceptualisation framework for measuring MOOC success should include all five factors, and second, learner factors, such as learner anxiety and motivation, should always be focused on and prioritised.

The results have drawn attention to explaining and discussing the phenomenon behind them. With less anxiety, students would be more engaged in their learning when they are more confident and comfortable. Abdel-Jaber (2017), Eom and Ashill (2016), and Li et al. (2017) agree that barriers to online learning will increase if students handle e-learning technology with a feeling of nervousness and fear. Moreover, Fawaz and Samaha (2020) and Paul and Glassman (2017) also acknowledge that students feel frustrated and anxious in an online learning environment if internet efficiency is low. In the Malaysian context, poor internet connectivity and limited broadband data were the biggest challenges experienced by online learners (Chung et al., 2020). Thus, learning satisfaction can be increased by reducing learners' anxiety through better internet access. Additionally, online learning anxiety can be reduced by offering an asynchronous mode of online learning (McLoughlin & Lee, 2010), such

as MOOCs. Such a situation happens because learners are not bound by the duration of time and internet access as they would experience in synchronous online learning. Thus, online learners can always view instructional materials and perform learning tasks anytime when internet access is available (Guichon, 2010).

Motivation to learn is another important factor that influences learning satisfaction. Students put effort into their self-development of MOOC learning when they are motivated by certain intrinsic (e.g., fun and challenging) and extrinsic (e.g., rewards and recognition) features (Ryan & Deci, 2000). Intrinsic and extrinsic motivation effects were measured in this study. Some 70% of the participants were made compulsory to use MOOCs in their learning during the COVID-19 pandemic. They had to actively participate in the MOOC task activities designed by the lecturers at their respective universities to gain better grades or recognition of the subject (Chen et al., 2020). This form of extrinsic motivation (better grades or recognition) has improved students' satisfaction with learning (Barak et al., 2016).

Similarly, higher intrinsic motivation will create a better online learning experience. According to Hartnett (2016), online learners are more intrinsically motivated than their on-campus counterparts at undergraduate and postgraduate levels. Motivation is related to the view that learning with technology enables several aspects recognised as important in fostering intrinsic motivation, such as challenge,

curiosity, fun, novelty, and fantasy (Eom & Ashill, 2016; Lepper & Malone, 1987). Moreover, intrinsic motivation can increase the frequency of learner-content interaction as it elicits attention to learn the content in the sense of curiosity, enjoyment, and others, but no assumption can be made about the level of content knowledge (Renninger, 2000). Although learner motivation to learn online is always complex, designing MOOC courses that sustain student motivation is considered the critical presage variable influencing MOOC success (Albelbisi et al., 2018).

On the other hand, interactivity factors are also significant factors in student learning satisfaction. It includes learner-learner, learner-instructor, and learner-content interactions. This finding was reinforced by Kuo and Belland (2016). They found that human interaction is an essential element of a supportive community in the online learning environment, especially during the COVID-19 crisis, as students must learn under the conditions of the movement control order (Das & Das, 2020).

MOOCs in the current study belong to cMOOCs based on the philosophy of social constructivism, where learners take increasing responsibility for their learning, and instructors are enablers and activators of learning. Therefore, learner interaction, such as dialogue, discussion, and group work, is important in fostering student understanding and improving satisfaction towards MOOCs. When students are actively participating in an intellectual exchange with fellow students in MOOCs,

they will be able to verbalise what they have learned in a course and articulate their current understanding based on the posted learning materials (Alqurashi, 2018; Eom & Ashill, 2016; Hew et al., 2020). In addition, comprehension and confirmation checks of the content knowledge can be done by interacting with each other such as through peer assessment, instructors' comments, or self-assessment through learner-content interaction (Pica et al., 1987).

The learning approach of cMOOC is more learner-centred than instructor-centred, where learners construct knowledge through language (Knox, 2018). However, this does not mean that the instructor's role is unnecessary in this learning approach. The findings indicated that learner-instructor interaction had played a significant role in improving the student learning experience during the COVID-19 crisis, in which a learner-centred instructor enables learners to build knowledge through reading, writing, watching videos, navigating the course, and participating in the class discussion forums (Rapanta et al., 2020). Learner-instructor interaction can also be done through non-verbal communication, such as replying to students' comments, sending a private message through a chat box, expressing emotion with an "emoji" or "like," and recording videos for general announcements and reminders (Dehghani et al., 2020; Hew, 2018). Additionally, the embedment of such interactive learning environments between learner-to-learner and learner-to-instructor will further promote the enhancement of MOOC learners' self-regulated learning attitude (Albelbisi & Yusop, 2019).

IMPLICATIONS

This study is important as it provides an empirically justified framework in e-learning for developing distance learning courses such as MOOCs in higher education. Furthermore, it provides a clear understanding from a holistic view to different MOOC stakeholders, such as university administrators, instructors, instructional designers, and policymakers, so that MOOC implementation can be improved and the question of the low completion rate can be resolved.

Since the learner factor has been proven to be the most significant factor in improving students' learning satisfaction, instructors should focus more on increasing students' motivation, reducing students' anxiety, and fostering self-regulated and independent learning during the learning process with MOOCs. Therefore, before starting a MOOC, it is essential to strengthen education and training to give students a better understanding of the abilities, skills, strategies, and attitudes required of an online learner. Furthermore, equipping students with the appropriate knowledge and skills could help them boost their motivation to learn and reduce anxiety when facing difficulties (e.g., slow internet access) in MOOCs (Albelbisi & Yusop, 2019). Moving forward, the government, telecommunication companies, and universities should cooperate to invest in developing better internet infrastructure across the country, as online learning will be the new norm in the foreseeable future (Chung et al., 2020).

The results also suggest that course instructors should always focus on creating more meaningful interactions and communication with the students. For example, they could use a chat box or create a discussion forum in the café for the students to ask questions or seek help. In addition, putting students into small groups is a useful approach to promote frequent interaction among them, and producing interactive learning activities (e.g., matching quizzes and crosswords) helps increase learners' intrinsic motivation (Yusop et al., 2020).

Finally, the course needs to follow the best instructional design practices in developing the course learning objectives, delivery of learning materials, assessments, and discussion forums. At the same time, the technology system must be easy for students to navigate and find relevant resources. Universities should provide training for the instructors on the essential skills needed to facilitate and conduct MOOCs effectively, as teaching in MOOCs is very different from face-to-face teaching.

CONCLUSION AND RECOMMENDATIONS

The rapid growth of MOOCs has profoundly impacted the teaching and learning field. It has changed how people view learning in the 21st century. To better evaluate and anticipate the profound impact of MOOCs on learners, further refining learners' understanding of MOOC adoption is essential. Therefore, this research investigates the roles of the learner, instructor, course, technology system,

and interactivity on students' satisfaction in a MOOC learning environment. The findings of this study have indicated that all these factors have been proven to be very significant. Additionally, it has been found that the learner (i.e., motivation and anxiety) and interactivity factors (i.e., learner-instructor, learner-learner, and learner-content interactions) should be emphasised in promoting student learning satisfaction in the MOOC environment.

The adoption of qualitative studies could be used to support and strengthen the validity of the present research to gain a more robust understanding of the relationship between the key factors and student learning satisfaction in MOOCs. Subsequently, further research to investigate the arising view from the current research could be conducted, including a comparison between mandatory and voluntary MOOCs, cMOOCs, and xMOOCs, or low and high self-regulated learners, which has yet to be explored in depth. Finally, longitudinal studies could be conducted in future studies to confirm the obtained results and provide a better insight into the development of MOOCs to improve student learning satisfaction.

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A Study of Values in University Students from Teacher-Training Pedagogical Programs in Chile

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ABSTRACT

Value education for preservice university teachers is an unavoidable task, given the level of authority they exercise in the lives of children and young people. The objective of the current study was to understand the perception of values held by preservice teachers from a regional university in Chile set in a multicultural context. The aim was to analyze the opinions of Chilean university preservice teachers on a set of values. The research was designed within the quantitative framework using a Likert scale questionnaire, applied to 319 pedagogy university students. The participants' responses were analyzed with statistical tools, and the results revealed that the participating students valued more significant aspects of affectivity, morals, and ecology. As reported by the participants, the least preferred values were instrumental and religious. These findings are significant for decision-making and consistent implementation to improve pedagogical training in accordance with today's society's problems and educational needs. The article ends with a conclusion, implications, and limitations of the current research.

Keywords: Chile, preservice teachers, quantitative study, university students, value education

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INTRODUCTION

Values organize human behavior from a cognitive-affective point of view for decision-making in daily life (Poorchangizi et al., 2019). Value education focuses on the development of all aspects of a person's life, leading to understanding how the concept of person, "the subject of integral education," is understood (Gervilla, 2010; González-Gijón et al., 2021, p. 121).

Value is “everything aspired to because it is considered desirable, be it concrete objects or abstract ideals that motivate and guide human activity in a certain direction” (Garza & Patiño, 2000, p. 12). Human behavior finds in values a network to organize existence since “value is like a basic belief through which we interpret the world, give meaning to events and our existence” (Ortega & Mínguez, 2001, p. 12). This way, values are referents embodied in behavior when practiced (Chapa & Martínez, 2015). They play a fundamental role in making decisions and choices and constructing perceptions and attitudes in all aspects of life (Sagiv et al., 2017).

Value education provides an understanding to guide students in making decisions in the face of the multiple problems they encounter (Cano-Escoriza et al., 2019; Fernández-Vega & Cárcamo-Vásquez, 2017). The formative pedagogical process is a privileged environment to make known a series of values that aim to resignify the same of the person and the integral development (Cívico-Ariza et al., 2021). For this, we consider the need to strengthen the formative processes, the context of school practices of future educators, and their academic reflection so that they can carry out specialized educational activities that allow them to respond to the needs of the student (Robson, 2019).

The formation of values in future teachers is of great importance for their professional performance (Gamage et al., 2021). This process must be implemented in the curricular itinerary of the graduate

programs (Garay et al., 2018). In this sense, the development of a formation plan must favor the configuration of an axiological matrix that illuminates the professional work and the training role for the integral development of people and their relationship with society’s problems. In this respect, the study provides information for decision-making and consistent implementation to improve pedagogical training in accordance with today’s society’s problems and educational needs (Collier, 2013). In this context, the present study comprehensively examines the values of university students from teacher-training pedagogical programs at a university in the Maule region of Chile.

LITERATURE REVIEW

Values in Future Teachers

Values are “guiding principles in life” (Schwartz, 2012, p. 17) and are conceived as principles that guide human action, which is considered good or desirable (Cívico-Ariza et al., 2021; Gamage et al., 2021). Values provide guidelines for decision-making and are organized in networks fulfilling the activity of being a general plan for resolving conflicts in the different states of existence (Robson, 2019). Value education for future university teachers is an unavoidable task, given the authority they exercise in the lives of children and young people (Şahin, 2019).

Education is always linked to values since they are inherent to all educational activities (Clement, 2007). Educating is to optimize students’ lives for active citizenship through self-reflection to live autonomously and responsibly.

In this sense, it is essential to design a transversal curricular plan for the study programs, making the epistemic sense visible in conceptualizing and appropriating these values in practice. Furthermore, developing an educational pathway for the inclusion of values, aptitudes, and personal skills to achieve comprehensive training and adequate incorporation of future teachers into the school environment is necessary. In this regard, the United Nations organization in the conference “Towards Universal Access to Higher Education: International Trends” (United Nations Educational, Scientific and Cultural Organization (The UNESCO International Institute for Higher Education in Latin America and the Caribbean [IESALC], 2020, p. 22) points out that the “values, attitudes, ethics and knowledge that higher education institutions can impart to students constitute the social capital necessary to build healthy civil societies and socially cohesive cultures.”

Teachers, in the exercise of their profession, play a relevant role in transmitting values to students. This aspect is essential in education, where they carry out educational activities to achieve quality learning (Gamage et al., 2021). In this regard, the Incheon Declaration and Framework for Action for the implementation of Sustainable Development Goal 4 ensure inclusive and equitable education (UNESCO, 2016, p.33), which states, “quality education includes the development of those skills, values, attitudes, and knowledge that enable citizens to lead healthy and fulfilled lives, make

informed decisions and respond to local and global challenges.”

In this sense, the need to identify the different human values declared by future teachers is a timely requirement since professional values are based on the internalization of the same as their own, with the understanding that values offer a model of thought and way of proceeding. This identification of values helps shape the decision-making, choice, and elaboration of perceptions and attitudes (Sagiv et al., 2017). Therefore, implementing values has become the most important challenge in education. Value education acquires importance in today’s contemporary educational field to safeguard the sustainability of societies (Santhi, 2016). Future teachers have an essential role since they shape the student body’s spiritual, ethical, and socio-cultural life through educational actions. These educational tasks aim to train children and young people to face the complexities of the present and future life (Şahin, 2019).

In this context, universities are responsible for the formation of their students. It is an educational space where the human potential for innovation and social development is generated. Its task is oriented toward training professionals and people in general (Thornberg, 2008). In this way, a university is where people learn and promote inclusion, social justice, equity, and democracy, not only understood as knowledge management but also as a context of inclusive citizenship (Gómez & González, 2017).

The pedagogical formation of future teachers in cultural and technological knowledge must overlap with elements of citizenship training that enable them to understand and transform the different sociocultural situations (García, 2008; Gómez & González, 2017; Legendre, 2007; Martínez & Esteban, 2005). The imprint of responsible citizenship in professional performance is not obtained spontaneously but is learned in contexts that favor the ethical construction of the person. This process of knowledge construction is carried out in the university to engage with the local and international context (Lind, 2007; Martínez & Esteban, 2005; Martínez & Hoyos, 2006; Moreno, 2008; Quintana, 2005; Ríos & Ruiz, 2011; Touriñán, 2008).

University is a fundamental formative space for acquiring and modifying values and attitudes through horizontal dialogical experiences with teachers and classmates (Magaña et al., 2016). In this sense, the university's proposal of practical in the pedagogical formation is a privileged space for learning professional competencies and skills that allow for significant learning for the development of ethics and citizenship (Zepke, 2013). United Nations organization on the world conference on higher education refers to the same idea mentioned above.

Higher education must not only give solid skills for the present and future world but must also contribute to the education of ethical citizens committed to the construction of peace, the defense of human rights, and the values of democracy. (UNESCO, 2009, p. 2).

Martínez et al. (2002) in their study proposed the need for pedagogical formation that integrates ethical learning as an area of knowledge or otherwise transversal to the learning of scientific or cultural knowledge. Training for a dignified life from the personal and community sphere and the ability to face personal and social circumstances by offering reasoned solutions require an organized and systematic educational practice. On the other hand, UNESCO, in the text "Education Encloses a Treasure," states:

Education must contribute to the overall development of each person: body and mind, intelligence, sensibility, aesthetic sense, individual responsibility, spirituality... The essential function of education is to confer on all human beings the freedom of thought, judgment, feeling, and imagination that they need to bring their talents to fulfillment and to remain, as far as possible, the architects of their destiny. (UNESCO, 1996, pp. 106-107)

In this sense, it is hoped that the formation of future teachers will include theoretical and practical knowledge, which will allow the development of the professional from an axiological matrix "since the contribution of teachers and professors is essential to prepare young people not only to approach the future with confidence but also to build it themselves" (UNESCO, 1996, p. 161). Therefore, it is imperative to install a pedagogical formation model that integrates education for autonomy in decision-making from an axiological matrix as part of the

scientific-cultural knowledge for the shaping of democratic and multicultural societies (Karataş & Oral, 2015; Martínez et al., 2002; Martínez & Esteban, 2005).

Thus, it is impossible to conceive an education that does not encompass training in values (Gervilla, 2000; Ibáñez, 1993; Ortega & Mínguez, 2001). Education is not limited to instructing knowledge and skills but to educating the person. Therefore, it is a fundamental theme for education in the 21st century. Investigating future teachers' values provides significant knowledge regarding present and future problems that must be elucidated to educate the citizens of the 21st century. Thus, we affirm the need to discover or name a series of values that allow us to give personal and social meaning to be able to perform as pedagogues at different educational levels. In response to this need, the study aims to delve into the perception of values held by student teachers at a university in the Maule region of Chile.

In view of the above discussion, the present study has general and specific objectives.

General Objective

To understand the perception of values held by preservice teachers from a regional university in Maule set in a multicultural context.

Specific Objectives

The specific objectives of this research are as follows:

1. To identify the values of preservice teachers from a pedagogy program at a regional university in Maule.

2. To determine the axiological hierarchy of the preservice teachers from a pedagogy program at a regional university in Maule.
3. To determine if there are significant differences in the hierarchy according to the gender variable.
4. To determine if there are significant differences in the hierarchy of values in preservice teachers according to the faculty in which they study.

METHOD

The methodology used in this study is quantitative, wherein it aims to analyze the opinion of the participants on a set of values. The value test (Casares, 1995) instrument was applied to assess values in university students.

Participants

The participants were selected from the one renowned university in Chile, imparting full-time courses in different educational pedagogy programs. The study was directed toward knowing final-year university students' perceptions of the values of education. They were selected because they are on the verge of completing their degree and starting their professional practice in different schools. Thus, this group would also show the impact of university education on their value system. They pertained to three faculties: The faculty of Basic Sciences, the Faculty of Educational Sciences, and the Faculty of Religious and Philosophical Sciences. The study's sample group comprises all final-year pedagogy

program students from the three Faculties mentioned above at this Chilean university. The study followed non-probabilistic convenience sampling. The total universe was 2224 enrolled students in the ten pedagogy programs. Out of the total number of students, those enrolled in the final year

of each program add up to 338. The sample was then set to 319 students from three faculties and ten graduation cohorts from the university's trainee-teacher programs (Table 1). In terms of gender, 30% of the participants were male and 70% female.

Table 1
Participants of the study

Faculty	Degree	Number of Students
Faculty of Basic Sciences (F. Basic Sciences)	Pedagogy in Mathematics and Computer Science	31
	Pedagogy in Science	29
	Differential Education	30
Faculty of Educational Sciences (F. Education)	Physical Education	38
	Elementary Education Pedagogy	39
	Elementary Education pedagogy with majors	47
	Pedagogy in English	29
	Pedagogy in Language	28
	Early Childhood Education	35
Faculty of Religious and Philosophical Sciences (F. Religion & Philosophy)	Pedagogy in Religion and Philosophy	13
Total		319

Instruments

The instrument used to collect the information is a questionnaire to point out values in university students (Table 2). It has also been applied by Casares (1995) and Casares and Collados (1998). Furthermore, this instrument underlies Gervilla's (2000) integral model of the human being, which is organized into ten categories of values:

bodily, intellectual, affective, individual, aesthetic, moral, social, ecological, instrumental, and religious. By following up on previous studies of the instrument, we realized that it had been used on different occasions (Álvarez et al., 2012; Casado & Sánchez-Gey, 1999; Rodríguez et al., 2008); likewise, Cronbach's alpha statistic (0.96) was used, which is recognized as reliable.

Table 2

Instrument used: Test of values (Casares, 1995)

1–25	Bodily values	126–150	Moral values
26–50	Intellectual values	151–175	Social values
51–75	Affective values	176–200	Ecological values
76–100	Aesthetic values	201–225	Instrumental values
101–125	Individual values	226–250	Religious values

RESULTS

A 20.0 version of the statistical software SPSS was used to analyze the data. A descriptive analysis was carried out along with an approach to inferential statistics to determine the influence of the independent variables on the dependent ones represented by the collection in the ten categories.

Values Reported by Category

The values are presented descriptively according to the 250 items in the ten categories. The results are shown globally for each category and ordered hierarchically according to the means (Table 3).

Table 3

Hierarchy of value: Descriptive statistics for each category of values in descending order from most preferred to least preferred values as reported by the participants

Categories of Values	N	Mean	SD	Min	Max
Affective	319	42.17	8.322	-8	50
Moral	319	40.75	9.888	-9	50
Ecological	319	40.64	11.122	-5	50
Individual	319	37.42	10.820	-19	50
Social	319	33.35	10.980	-12	50
Bodily	319	31.63	8.167	6	49
Intellectual	319	29.71	10.045	0	50
Aesthetic	319	28.89	12.003	-7	50
Instrumental	319	21.60	14.612	-22	50
Religious	319	22.35	22.201	-50	50

An overall view of each category faculty-wise is displayed in Table 4.

Table 4

Descriptive statistics for each category of values faculty wise

Value Categories	Faculty	N	Mean	SD	Min	Max
Bodily	F. Basic Sciences	60	30.07	8.320	6	47
	F. Education	246	32.01	8.112	6	49
	F. Religion & Philosophy	13	31.69	8.280	19	45
	Total	319	31.63	8.167	6	49
Intellectual	F. Basic Sciences	60	28.47	10.471	3	49
	F. Education	246	29.74	9.982	0	50
	F. Religion & Philosophy	13	34.85	8.009	15	46
	Total	319	29.71	10.045	0	50
Affective	F. Basic Sciences	60	41.23	9.093	6	50
	F. Education	246	42.57	8.156	-8	50
	F. Religion & Philosophy	13	39.00	7.200	25	49
	Total	319	42.17	8.322	-8	50
Aesthetic	F. Basic Sciences	60	24.70	11.451	2	50
	F. Education	246	29.95	12.092	-7	50
	F. Religion & Philosophy	13	28.31	8.779	18	47
	Total	319	28.89	12.003	-7	50
Individual	F. Basic Sciences	60	33.52	11.933	-19	50
	F. Education	246	38.43	10.441	-15	50
	F. Religion & Philosophy	13	36.38	8.846	21	49
	Total	319	37.42	10.820	-19	50
Moral	F. Basic Sciences	60	38.70	11.216	-4	50
	F. Education	246	41.47	9.476	-9	50
	F. Religion & Philosophy	13	36.62	9.421	13	50
	Total	319	40.75	9.888	-9	50
Social	F. Basic Sciences	60	30.73	12.175	-12	50
	F. Education	246	34.01	10.719	-8	50
	F. Religion & Philosophy	13	32.85	8.745	18	48
	Total	319	33.35	10.980	-12	50
Ecological	F. Basic Sciences	60	38.43	12.750	2	50
	F. Education	246	41.15	10.833	-5	50
	F. Religion & Philosophy	13	41.08	7.274	28	49
	Total	319	40.64	11.122	-5	50

Table 4 (Continue)

Value Categories	Faculty	N	Mean	SD	Min	Max
Instrumental	F. Basic Sciences	60	22.70	11.359	-3	45
	F. Education	246	21.61	15.310	-22	50
	F. Religion & Philosophy	13	16.38	14.228	-14	38
	Total	319	21.60	14.612	-22	50
Religious	F. Basic Sciences	60	21.13	24.184	-50	50
	F. Education	246	22.37	21.990	-44	50
	F. Religion & Philosophy	13	27.69	16.575	-8	48
	Total	319	22.35	22.201	-50	50

Performing a general axiological analysis, we find that the most chosen categories are those that concern affective values ($M = 42.17$) with words such as happiness, loving, friendship, self-esteem, kiss, and good mood, followed by moral values ($M = 40.75$) with words such as goodness, duties, dignity, honesty and ecological values ($M = 40.64$) with words such as water, animals, trees, ecological biosphere, environment (Table 4).

Followed by those above are individual values ($M = 37.42$) and words such as authenticity, self-affirmation, self-awareness, self-control, social values ($M = 33.35$), and words such as kindness, association, commonweal, civics, politic - and bodily values ($M = 31.63$) with words such as getting warm, eating food, body, health, sexuality, vitality.

The category of intellectual values obtained a mean of 21.60, and words such as abstraction, analyzing, giving arguments, attention, research, and knowledge. The category of aesthetic values had a mean of 28.89, and words such as harmony, arts, beauty, cinema, literature, and poetry.

The category of instrumental and religious values was found at the lowest levels. A mean of 21.60 was found for the former with words like applying, automatic, money, saving, and efficacy. At the same time, the latter obtained a mean of 22.35 with words like soul, baptism, believer, God, doctrine, praying, and commandments. Special attention must be drawn to the results for the category of religious values, which reach a mean of 22.35 out of 50. This category was the only one with a minimum value of -50.

In terms of an overall estimation made by the preservice teachers, the religious values were those in which the lowest level of agreement was found, with the highest standard deviation at 22.20. On the other hand, the least unstable category was that of bodily values, which displayed a standard deviation of 8.16, with the highest level of agreement among the participants.

These results confirm that students from the teacher-trainee programs in the three faculties revealed values related to the development of emotional intelligence, decision-making, and especially the care-

taking of the environment more significantly than others. On a second level are those aspects that refer to personal identity, bodily dimension, and their permanent relationship with other human beings. On the next level, appearing as significant, are intellectual knowledge development and appreciating aesthetics.

Finally, religious and instrumental values are the least appreciated by students. The instrumental values are the second last in the preferences and are located considerably from the previous ones. These instrumental values having scores below the average, prove that a student is not very

materialistic. Religious value is found in the lowest preference, reflecting a clear indifference and lack of knowledge about religion. Preservice teachers' appreciation for religious values is indifferent.

Relationship of the Variables: Faculty, Gender, and Pedagogy Program with the Categories of Values. The variables of characterization, faculty, gender, and degree and their relationship with the variables referring to the categories of values contemplated in ten categories are presented in Table 5. For this purpose, several analyses of variance were carried out.

Table 5

ANOVA test results from a comparison between the variable faculty and the ten categories of values

Value Categories	Source of Variance	Sum of Squares	GI	Quadratic Mean	F	Sig.
Bodily	Int. gr	182.622	2	91	1.372	.255
	Intr. gr.	21027.466	316	67		
Intellectual	Int. gr	435.912	2	218	2.176	.115
	Intr. gr.	31651.975	316	100		
Affective	Int. gr	222.459	2	111	1.612	.201
	Intr. gr.	21799.059	316	69		
Aesthetic	Int. gr	1332.694	2	666	4.734	.009*
	Intr. gr.	44481.682	316	141		
Individual	Int. gr	1179.483	2	590	5.169	.006*
	Intr. gr.	36050.385	316	114		
Moral	Int. gr	602.458	2	301	3.122	.045*
	Intr. gr.	30486.978	316	96		
Social	Int. gr	521.987	2	261	2.181	.115
	Intr. gr.	37814.389	316	120		
Ecological	Int. gr	359.756	2	180	1.458	.234
	Intr. gr.	38979.786	316	123		
Instrumental	Int. gr	426.225	2	213	.998	.370
	Intr. gr.	67466.214	316	214		
Religious	Int. gr	459.932	2	230	.465	.629
	Intr. gr.	156273.040	316	495		

Note: *The difference in averages is significant at the 0.05 level.

Intergroup: Int. gr.

Intra group: Intr. gr.

There are statistically significant differences in aesthetic, individual, and moral values. However, the students surveyed in the three faculties did not show significant differences in the other value categories. Therefore, a more careful analysis is made of the three value categories with relevant differences.

The first category refers to aesthetic values. A comparative analysis of the three faculties revealed that the students of the Faculty of Basic Sciences ($M = 24.70$) value

less the aspects referring to the aesthetic dimension than those of the Faculty of Educational Sciences ($M = 29.95$) and the Faculty of Religious and Philosophical Sciences ($M = 28.31$) (Table 4).

Regarding post-hoc results, differences were found between the Faculty of Basic Sciences and the Faculty of Education (Table 6). However, no differences were found between the Faculty of Education and the Faculty of Religion and Philosophy.

Table 6

Post-hoc contrasts for the category aesthetic values (Test: Tukey HSD)

Faculty (I)	Faculty (J)	Mean difference (I-J)	Sig. (p)
F. Basic Sciences	F. Education	-5.247	.007*
	F. Religion & Philosophy	-3.608	.581
F. Education	F. Basic Sciences	5.247	.007*
	F. Religion & Philosophy	1.639	.878
F. Religion & Philosophy	F. Basic Sciences	3.608	.581
	F. Education	-1.639	.878

Note: *The difference in averages is significant at the 0.05 level

In second place are individual values. In this category, the Faculty of Basic Sciences, with a mean of 33.52, differs from the Faculty of Education ($M = 38.43$) and the Faculty of Religion and Philosophy ($M = 36.38$). In this way, words related to *authenticity*, *self-affirmation*, *self-awareness*, *autonomy*, *identity*, *originality*, *liberty*, and those similar to these are appreciated by the

students from the Faculty of Education and the Faculty of Religion and Philosophy with a certain nuance of a higher influence as compared to their peers from the Faculty of Basic Sciences, for whom these are less important. Nevertheless, it is crucial to mention that there are no significant differences between their means. The post-hoc results are displayed in Table 7.

Table 7

Post-hoc contrasts for the individual category values (Tests: Tukey HSD)

Faculty (I)	Faculty (J)	Mean difference (I-J)	Sig. (p)
F. Basic Sciences	F. Education	-4.914	.004*
	F. Religion & Philosophy	-2.868	.655
F. Education	F. Basic Sciences	4.914	.004*
	F. Religion & Philosophy	2.046	.779
F. Religion & Philosophy	F. Basic Sciences	2.868	.655
	F. Education	-2.046	.779

Lastly, there is the category of moral values. For this category, the results obtained for each of the faculties are as follows: Faculty of Basic Sciences, 38.7; Faculty of Education, 41.47; and Faculty of Religion and Philosophy, a mean of 36.62,

which is worth mentioning as the second highest. The post-hoc tests did not result in any statistically significant differences in the means among faculties, which is also reflected in their low standard deviation across the data (Table 8).

Table 8

Post-hoc contrasts for the category moral values (Tests: Tukey HSD)

Faculty (I)	Faculty (J)	Mean difference (I-J)	Sig. (p)
F. Basic Sciences	F. Education	-2.772	0.124
	F. Religion & Philosophy	2.085	0.767
F. Education	F. Basic Sciences	2.772	0.124
	F. Religion & Philosophy	4.856	0.193
F. Religion & Philosophy	F. Basic Sciences	-2.085	0.767
	F. Education	-4.856	0.193

Results obtained from the comparison between the independent variable “gender”

and the other value categories are presented in Tables 9 and 10.

Table 9

Descriptive statistics for each category of values gender wise

Value Categories	Male	Female
Bodily	30.79	31.99
Intellectual	29.31	29.88

Table 9 (Continue)

Value Categories	Male	Female
Affective	42.38	42.08
Aesthetic	27.36	29.54
Individual	37.67	37.32
Moral	40.01	41.07
Social	32.51	33.71
Ecological	39.47	41.13
Instrumental	21.24	21.75
Religious	19.12	23.73

Table 10

ANOVA test results from a comparison between the variable gender and the ten categories of values

Value Categories	Source of Variance	Sum of Squares	GI	Quadratic Mean	F	Sig.
Bodily	Int. gr.	96.316	1	96.316	1.446	.230
	Intr. gr.	21113.772	317	66.605		
Intellectual	Int. gr.	21.994	1	21.994	.217	.641
	Intr. gr.	32065.893	317	101.154		
Affective	Int. gr.	5.771	1	5.771	.083	.773
	Intr. gr.	22015.746	317	69.450		
Aesthetic	Int. gr.	318.991	1	318.991	2.223	.137
	Intr. gr.	45495.385	317	143.519		
Individual	Int. gr.	8.489	1	8.489	.072	.788
	Intr. gr.	37221.380	317	117.418		
Moral	Int. gr.	74.451	1	74.451	.761	.384
	Intr. gr.	31014.985	317	97.839		
Social	Int. gr.	96.075	1	96.075	.796	.373
	Intr. gr.	38240.301	317	120.632		
Ecological	Int. gr.	183.876	1	183.876	1.489	.223
	Intr. gr.	39155.666	317	123.519		
Instrumental	Int. gr.	17.512	1	17.512	.082	.775
	Intr. gr.	67874.927	317	214.116		
Religious	Int. gr.	1418.857	1	1418.857	2.896	.090
	Intr. gr.	155314.115	317	489.950		

Note: Inter group: Int. gr.

Intra group: Intr. gr.

There are no significant differences in religious values ($M = 19.08$), whereas the highest mean corresponds to affective values in the means between males and females (Table 10). However, the lowest means ($M = 42.38$), also found in the male group. correspond to the male group categorized

On the other hand, when we examine the means obtained in each level of the variable “gender,” as expected, the female group highlights the importance of moral, ecological, bodily, social, aesthetic, intellectual, and religious values. Moreover, the values present in the lives of men and

women are linked to family, professional and social contexts.

Table 11 shows the ANOVA results for comparing the variable “graduation cohort” and the ten categories of values examined in this study.

Table 11

ANOVA test results from a comparison between the variable graduation cohort and the ten categories of values

Value Categories	Source of Variance	Sum of Squares	GI	Quadratic Mean	F	Sig.
Bodily	Int. gr	1429.037	9	158.782	2.480	.010*
	Intr. gr.	19781.051	309	64.016		
Intellectual	Int. gr	1799.924	9	199.992	2.040	.035*
	Intr. gr.	30287.964	309	98.019		
Affective	Int. gr	1174.582	9	130.509	1.934	.047*
	Intr. gr.	20846.936	309	67.466		
Aesthetic	Int. gr	6255.822	9	695.091	5.430	.000*
	Intr. gr.	39558.554	309	128.021		
Individual	Int. gr	1803.552	9	200.395	1.748	.078
	Intr. gr.	35426.316	309	114.648		
Moral	Int. gr	1437.374	9	159.708	1.664	.097
	Intr. gr.	29652.061	309	95.961		
Social	Int. gr	896.402	9	99.600	.822	.596
	Intr. gr.	37439.974	309	121.165		
Ecological	Int. gr	2508.696	9	278.744	2.339	.015*
	Intr. gr.	36830.846	309	119.194		
Instrumental	Int. gr	3906.160	9	434.018	2.096	.030*
	Intr. gr.	63986.279	309	207.075		
Religious	Int. gr	12414.671	9	1379.408	2.953	.002*
	Intr. gr.	144318.301	309	467.050		

Note: *The difference in averages is significant at the 0.05 level.

Inter group: Int. gr.

Intra group: Intr. gr.

In the analysis of the variable “graduation cohort” and the value categories, statistically significant differences in the

bodily, intellectual, affective, aesthetic, ecological, instrumental, and religious values were observed. Besides, for the variable

“graduation cohort,” the appreciation of bodily values shows significant differences. For example, bodily values appear less important for the Math and IT Education Program (M = 28.16) than the Physical Education and the Early Childhood teacher

education program. Their means are 34.26 and 34.77, respectively (Figure 1). Table 12 shows the set of post-hoc contrasts for the category bodily values across different pedagogy programs.

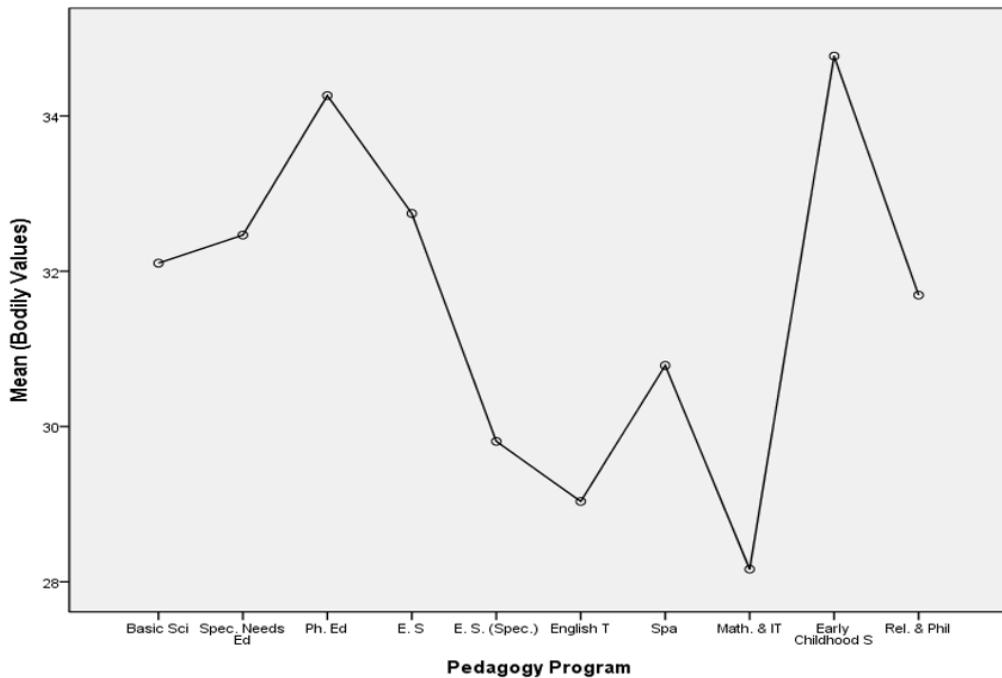


Figure 1. Histograms with mean values for the bodily values pedagogy program wise

Note:

- Basic Sci.: Pedagogy in Science
- Spec. Needs Ed.: Pedagogy in Differential Education
- Ph. Ed.: Pedagogy in Physical Education
- E. S: Pedagogy in Elementary Education
- E. S. (Spec.): Pedagogy in Elementary Education with major
- English T.: Pedagogy in English
- Spa: Pedagogy in Language
- Math. & IT: Pedagogy in Mathematics and Computer Science
- Early Childhood S.: Pedagogy in Early Childhood Education
- Rel. & Phil.: Pedagogy in Religion and Philosophy

Table 12
 Post-hoc contrasts for the category bodily values (Tests: Sheffé and Tukey)

	Basic Sci.	Spec. Needs.	Ph. Ed.	E. S	E. S. (Spec.)	English T.	Spa.	Math. & IT	Early Childhood S.	Rel. & Phil.
Basic Sci.	1	P > 0.05	P > 0.05	P > 0.05	P > 0.05	P > 0.05	P > 0.05	P > 0.05	P > 0.05	P > 0.05
Spec. Needs		1	P > 0.05	P > 0.05	P > 0.05	P > 0.05	P > 0.05	P > 0.05	P > 0.05	P > 0.05
Ph. Ed.			1	P > 0.05	P > 0.05	P > 0.05	P > 0.05	P < 0.05	P > 0.05	P > 0.05
E. S				1	P > 0.05	P > 0.05	P > 0.05	P > 0.05	P > 0.05	P > 0.05
E. S. (Spec.)					1	P > 0.05	P > 0.05	P > 0.05	P > 0.05	P > 0.05
English T.						1	P > 0.05	P > 0.05	P > 0.05	P > 0.05
Spa.							1	P > 0.05	P > 0.05	P > 0.05
Math. & IT								1	P < 0.05	P > 0.05
Early Childhood									1	P > 0.05
Rel. & Phil.										1

Secondly, there are important differences in the category, which refers to intellectual values; that category comprises aspects related to abstraction, analyzing, supporting an argument, knowledge, research, reasoning, and others. On examining the results, significant differences between the “graduation cohort” of the Math and IT Education Program (M = 25.48) and the Early Childhood School Program were found (Figure 2). Finally, the Religion and Philosophy Teaching Program, with a mean of 34.85, is considerably far from the rest of the graduation cohorts. Table 13 shows the set of post-hoc tests that revealed binomial differences.

Thirdly, we can observe the affective values, which include *gladness, love, friendship, kissing*, and a *good mood*. The average in this category is the highest for all graduation cohorts, with a mean of 42.17. On the other hand, the English Teaching Program has a mean of 38.38, which happens to be the lowest (Figure 3). Finally, Table 14 shows the post hoc results in which there is no statistically significant difference between the groups.

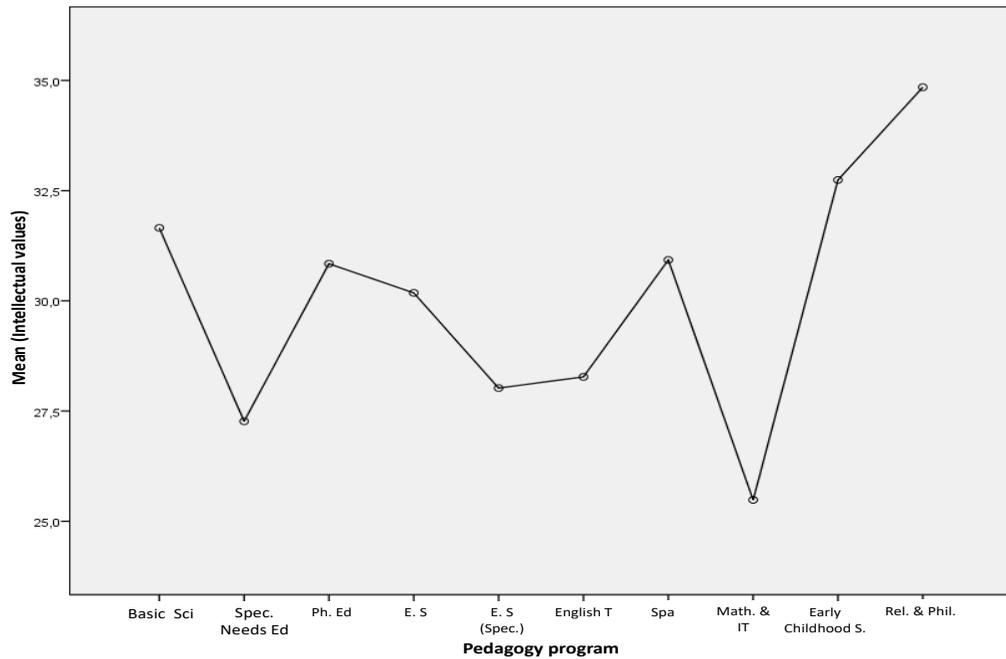


Figure 2. Histograms with mean values for the intellectual values pedagogy program wise

Table 13

Post-hoc contrasts for the category intellectual values (Tests: Sheffé and Tukey)

	Basic Sci.	Spec. Needs.	Ph. Ed.	E. S	E. S. (Spec.)	English T.	Spa.	Math. & IT	EChildhood	Rel. & Phil.
Basic Sci.	1	P > 0.05	P > 0.05	P > 0.05	P > 0.05	P > 0.05	P > 0.05	P > 0.05	P > 0.05	P > 0.05
Spec. Needs		1	P > 0.05	P > 0.05	P > 0.05	P > 0.05	P > 0.05	P > 0.05	P > 0.05	P > 0.05
Ph. Ed.			1	P > 0.05	P > 0.05	P > 0.05	P > 0.05	P < 0.05	P > 0.05	P > 0.05
E. S				1	P > 0.05	P > 0.05	P > 0.05	P > 0.05	P > 0.05	P > 0.05
E. S. (Spec.)					1	P > 0.05	P > 0.05	P > 0.05	P > 0.05	P > 0.05
English T.						1	P > 0.05	P > 0.05	P > 0.05	P > 0.05
Spa.							1	P > 0.05	P > 0.05	P > 0.05
Math. & IT								1	P < 0.05	P > 0.05
E. Childhood									1	P > 0.05
Rel. & Phil.										1

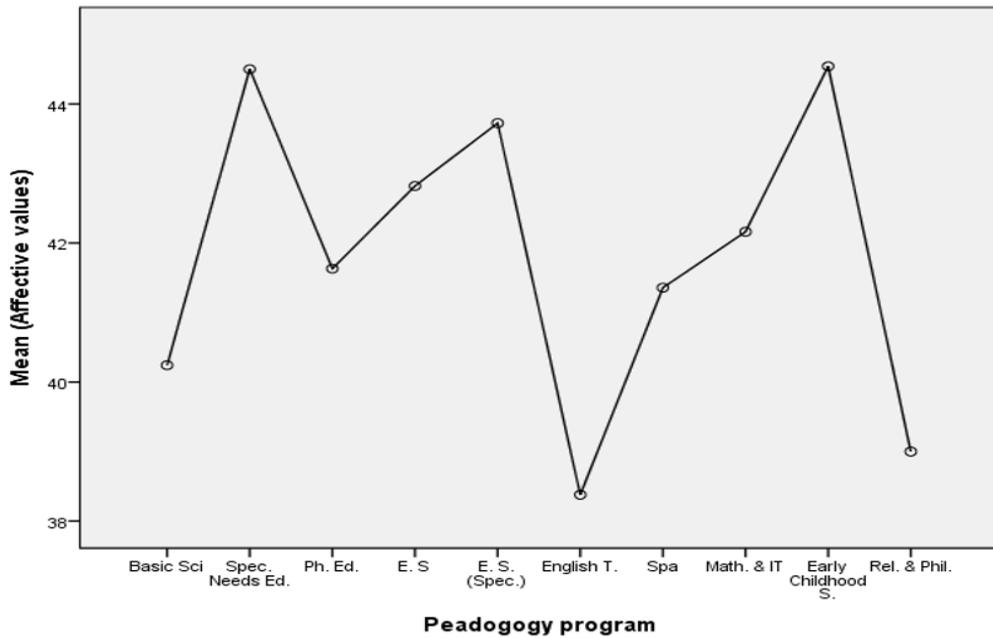


Figure 3. Histograms with mean values for the affective values pedagogy program wise

Table 14

Post-hoc contrasts for the category affective values (Tests: Sheffé and Tukey)

	Basic Sci.	Spec. Needs.	Ph. Ed.	E. S	E. S. (Spec.)	English T.	Spa.	Math. & IT	E.Chilhood	Rel. & Phil.
Basic Sci.	1	P > 0.05	P > 0.05	P > 0.05	P > 0.05	P > 0.05	P > 0.05	P > 0.05	P > 0.05	P > 0.05
Spec. Needs		1	P > 0.05	P > 0.05	P > 0.05	P > 0.05	P > 0.05	P > 0.05	P > 0.05	P > 0.05
Ph. Ed.			1	P > 0.05	P > 0.05	P > 0.05	P > 0.05	P < 0.05	P > 0.05	P > 0.05
E. S				1	P > 0.05	P > 0.05	P > 0.05	P > 0.05	P > 0.05	P > 0.05
E. S. (Spec.)					1	P > 0.05	P > 0.05	P > 0.05	P > 0.05	P > 0.05
English T.						1	P > 0.05	P > 0.05	P > 0.05	P > 0.05
Spa.							1	P > 0.05	P > 0.05	P > 0.05
Math. & IT								1	P < 0.05	P > 0.05
E. Childhood									1	P > 0.05
Rel. & Phil.										1

The fourth category is aesthetic values related to *arts, beauty, dancing, music*, and others. Several statistically significant differences (Table 15) were found between the graduation cohorts of the Math and IT Education Program (M = 23.81), the Early Childhood Education Program (M = 34.74), the Language and Communication Teacher Education Program (M = 34.89), and the Elementary School Teacher Education

Program (specialization), which has a mean of 32.91 (Figure 4). The Physical Education graduation cohort values this category less than those from the Elementary School Teacher Education Program (specialization), the English Teaching Program, the Language and Communication Teacher Education Program, and the Early Childhood education program.

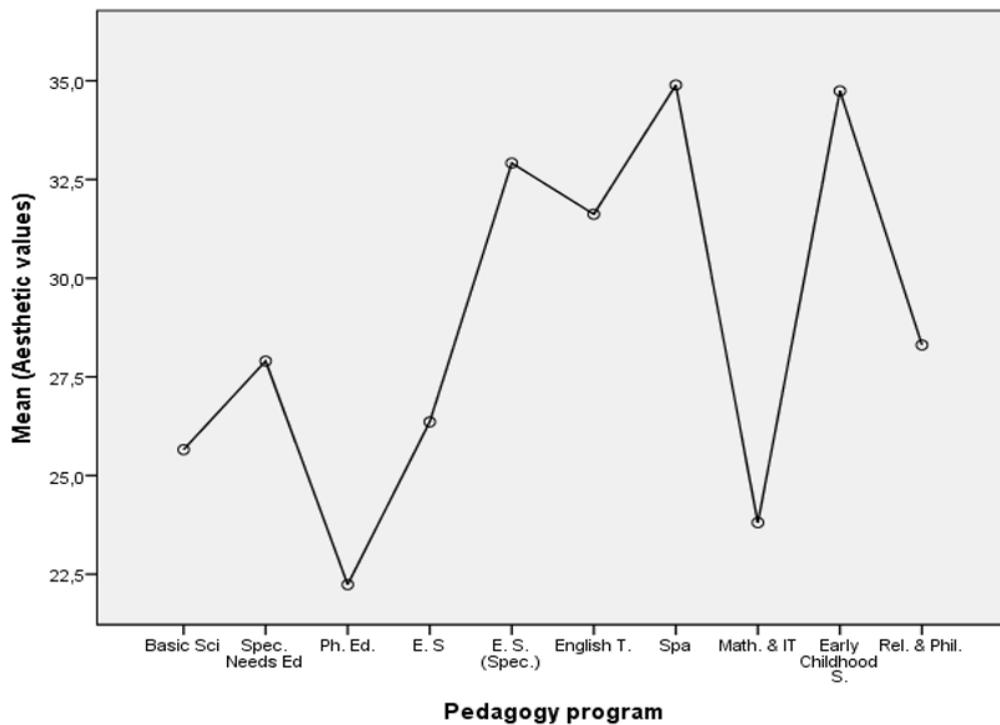


Figure 4. Histograms with mean values for the aesthetic values pedagogy program wise

Table 15

Post-hoc contrasts for the category aesthetic values (Tests: Sheffé and Tukey)

	Basic Sci.	Spec. Needs.	Ph. Ed.	E. S.	E. S. (Spec.)	English T.	Spa.	Math. & IT	E.Chilhood S.	Rel. & Phil.
Basic Sci.	1	P > 0.05	P > 0.05	P > 0.05	P > 0.05	P > 0.05	P > 0.05	P > 0.05	P > 0.05	P > 0.05
Spec. Needs		1	P > 0.05	P > 0.05	P > 0.05	P > 0.05	P > 0.05	P > 0.05	P > 0.05	P > 0.05
Ph. Ed.			1	P > 0.05	P > 0.05	P > 0.05	P > 0.05	P < 0.05	P > 0.05	P > 0.05

Table 15 (Continue)

	Basic Sci.	Spec. Needs.	Ph. Ed.	E. S	E. S. (Spec.)	English T.	Spa.	Math. & IT	E.Chilhood	Rel. & Phil.
E. S				1	P > 0.05	P > 0.05	P > 0.05	P > 0.05	P > 0.05	P > 0.05
E. S. (Spec.)					1	P > 0.05	P > 0.05	P > 0.05	P > 0.05	P > 0.05
English T.						1	P > 0.05	P > 0.05	P > 0.05	P > 0.05
Spa.							1	P > 0.05	P > 0.05	P > 0.05
Math. & IT								1	P < 0.05	P > 0.05
E. Childhood									1	P > 0.05
Rel. & Phil.										1

The fifth category is ecological values, which refer to *agriculture, animals, forest, countryside, nature, green areas*, and others. The results drawn from this analysis show that students in the Math and IT Education Program (M = 34.74) value this category less than those in the Elementary School Teacher and the Early Childhood Education

Program (Figure 5). In addition, statistically significant differences were found between students from the Math and IT Education Program, Elementary School Teacher Education Program (specialization), and Early Childhood Education Program (Table 16).

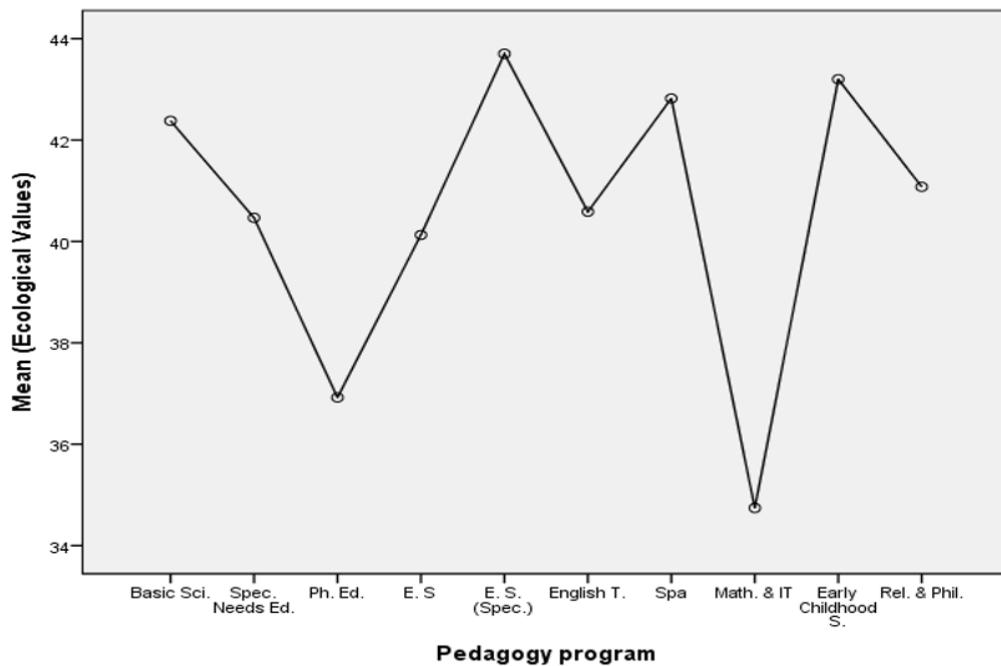


Figure 5. Histograms with mean values for the ecological values pedagogy program wise

Table 16

Post-hoc contrasts for the category ecological values (Tests: Sheffé and Tukey)

	Basic Sci.	Spec. Needs.	Ph. Ed.	E. S	E. S. (Spec.)	English T.	Spa.	Math. & IT	E.Chilhood	Rel. & Phil.
Basic Sci.	1	P > 0.05	P > 0.05	P > 0.05	P > 0.05	P > 0.05	P > 0.05	P > 0.05	P > 0.05	P > 0.05
Spec. Needs		1	P > 0.05	P > 0.05	P > 0.05	P > 0.05	P > 0.05	P > 0.05	P > 0.05	P > 0.05
Ph. Ed.			1	P > 0.05	P > 0.05	P > 0.05	P > 0.05	P < 0.05	P > 0.05	P > 0.05
E. S				1	P > 0.05	P > 0.05	P > 0.05	P > 0.05	P > 0.05	P > 0.05
E. S. (Spec.)					1	P > 0.05	P > 0.05	P > 0.05	P > 0.05	P > 0.05
English T.						1	P > 0.05	P > 0.05	P > 0.05	P > 0.05
Spa.							1	P > 0.05	P > 0.05	P > 0.05
Math. & IT								1	P < 0.05	P > 0.05
E. Childhood									1	P > 0.05
Rel. & Phil.										1

Regarding the category of instrumental values, which is related to aspects such as *materials, applying, cars, saving, tools,* and *machinery*, no post-hoc differences were found in an analysis conducted by

the teaching program (Table 17). Figure 6 shows the mean values of the different pedagogy programs for the instrumental value category.

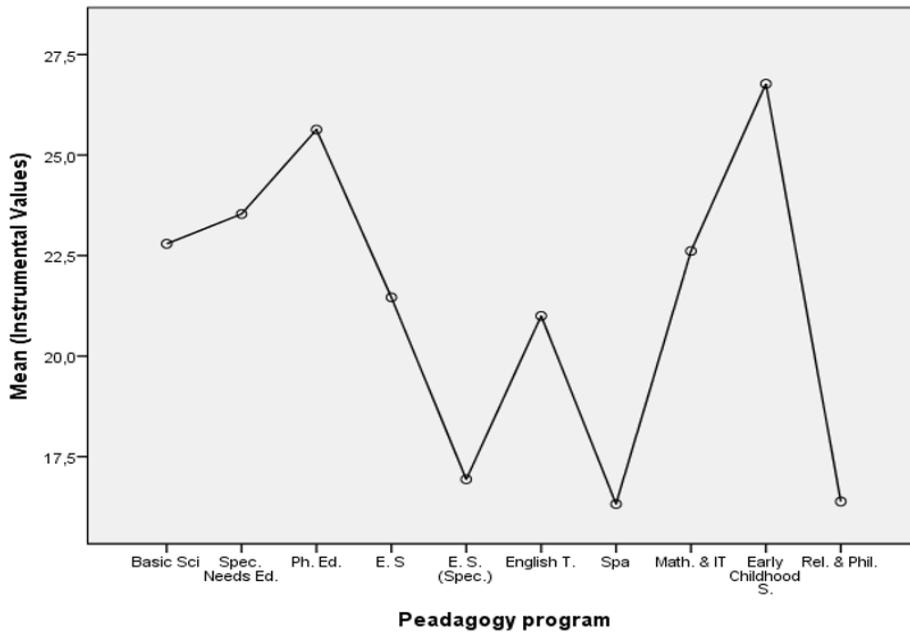


Figure 6. Histograms with mean values for the instrumental values pedagogy program wise

Table 17

Post-hoc contrasts for the category instrumental values (Tests: Sheffé and Tukey)

	Basic Sci.	Spec. Needs.	Ph. Ed.	E. S	E. S. (Spec.)	English T.	Spa.	Math. & IT	E.Chilhood	Rel. & Phil.
Basic Sci.	1	P > 0.05	P > 0.05	P > 0.05	P > 0.05	P > 0.05	P > 0.05	P > 0.05	P > 0.05	P > 0.05
Spec. Needs		1	P > 0.05	P > 0.05	P > 0.05	P > 0.05	P > 0.05	P > 0.05	P > 0.05	P > 0.05
Ph. Ed.			1	P > 0.05	P > 0.05	P > 0.05	P > 0.05	P < 0.05	P > 0.05	P > 0.05
E. S				1	P > 0.05	P > 0.05	P > 0.05	P > 0.05	P > 0.05	P > 0.05
E. S. (Spec.)					1	P > 0.05	P > 0.05	P > 0.05	P > 0.05	P > 0.05
English T.						1	P > 0.05	P > 0.05	P > 0.05	P > 0.05
Spa.							1	P > 0.05	P > 0.05	P > 0.05
Math. & IT								1	P < 0.05	P > 0.05
E. Childhood									1	P > 0.05
Rel. & Phil.										1

Finally, in the category of religious values, in general, no large differences were observed. However, the mean obtained by the English Teaching Program does not even reach 10, which generates differences between the Elementary School Teacher (M = 28.79) and the Early Childhood Education

Program (M = 30.94). It is the category with the largest dispersion in the data set, with a Standard Deviation of 22.20. Table 18 shows the post hoc results for this category of values, whereas Figure 7 illustrates the mean values for various pedagogic programs.

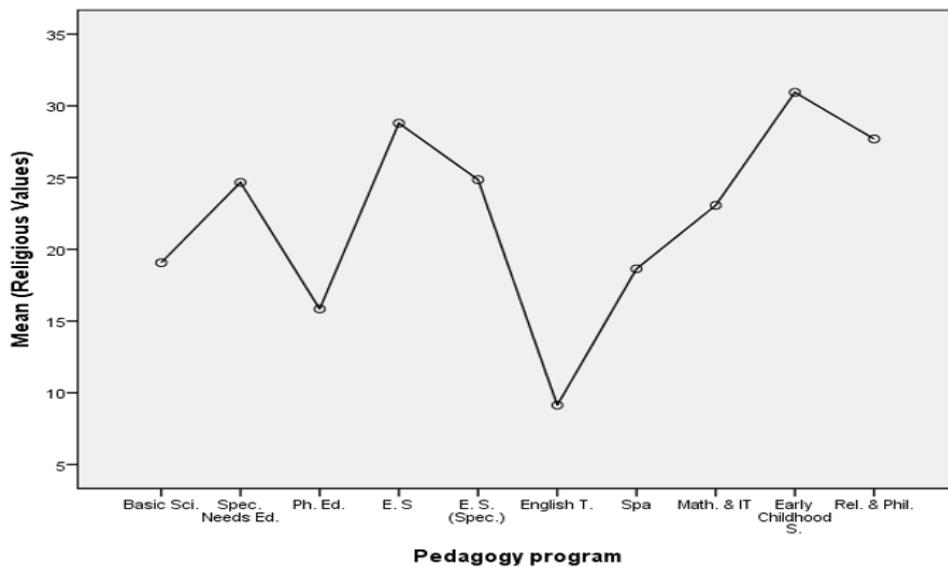


Figure 7. Histograms with mean values for the religious values pedagogy program wise

Table 18

Post-hoc contrasts for the category religious values (Tests: Sheffé and Tukey)

	Basic Sci.	Spec. Needs.	Ph. Ed.	E. S	E. S. (Spec.)	English T.	Spa.	Math. & IT	E.Chilhood	Rel. & Phil.
Basic Sci.	1	P > 0.05	P > 0.05	P > 0.05	P > 0.05	P > 0.05	P > 0.05	P > 0.05	P > 0.05	P > 0.05
Spec. Needs		1	P > 0.05	P > 0.05	P > 0.05	P > 0.05	P > 0.05	P > 0.05	P > 0.05	P > 0.05
Ph. Ed.			1	P > 0.05	P > 0.05	P > 0.05	P > 0.05	P < 0.05	P > 0.05	P > 0.05
E. S				1	P > 0.05	P > 0.05	P > 0.05	P > 0.05	P > 0.05	P > 0.05
E. S. (Spec.)					1	P > 0.05	P > 0.05	P > 0.05	P > 0.05	P > 0.05
English T.						1	P > 0.05	P > 0.05	P > 0.05	P > 0.05
Spa.							1	P > 0.05	P > 0.05	P > 0.05
Math. & IT								1	P < 0.05	P > 0.05
E. Childhood									1	P > 0.05
Rel. & Phil.										1

DISCUSSIONS AND CONCLUSION

The study’s results allowed us to determine a clear preference for affective, moral, and ecological values among the participants. The high appreciation of affective values is in line with the earlier studies carried out by Benedicto (2017), Cívico-Ariza et al. (2021), and González-Gijón (2020). These values constitute a fundamental component in people’s psychological well-being (Dirzyte et al., 2022) and the development of socio-emotional skills (Di Fabio & Kenny, 2019; Extremera et al., 2020). The importance of moral values coincides with studies by Bond and Chi (1997) and Fernández-Vega and Cárcamo-Vásquez (2017). Furthermore, the research studies express the importance of morally worthy actions in the personal and social sphere (Garay et al., 2018). The high interest in ecological values corresponds with the research by González-Gijón (2020) and Van der Werff et al. (2014).

These studies reflect on the importance of fostering attitudes and behaviors that contribute to caring for the environment. The importance assigned to individual values is similar to the research carried out by Benninga (2006) and Gamage (2021), which qualifies the importance of these values in learning processes (Berkowitz & Bier, 2005; Gonzalez-Gijón & Díaz, 2017). The social values reveal the importance given to social interactions, which coincide with the earlier research studies of Collier (2013), Ortega and Blanco (2017), and Véliz et al. (2017). Underlining social values signifies the need for students in pedagogical training to acquire tools for understanding social reality, which is part of their pedagogical processes in the context of inclusive citizenship (Gómez, & González, 2017; Halstead & Taylor, 2000). As for bodily values, these can be associated with the importance that young people attach to taking care of their physical

and mental health (Nava & Ureña, 2017). It is close to Gervilla's (2000) integral model of the human being. Values linked to the development of intellectual knowledge and the appreciation of aesthetics were found to be at a lower level. The low score for intellectual values reveals little interest in intellectual work, coinciding with the study by González-Gijón et al. (2020), in the understanding that this is part of their daily task. The concern is not minor, as intellectual values are fundamental in acquiring new cognitive categories that guide relationships with others and the environment (Krumrei-Mancuso, 2017; Şahin, 2019).

In addition, our study markedly differs in the importance given to processes such as analysis and abstraction from that of González-Gijón and Soriano (2017), who describe the importance of attending classes as an intellectual indicator. The low appreciation of aesthetic values reveals that student teachers have little interest in art, literature, and beauty. It is in line with the findings of studies by González-Gijón et al. (2020). On the other hand, it differs from the study by González-Gijón and Soriano (2017), in which the importance of activities related to aesthetics, associated with personal care, and activities linked to music, art, and cinema, is noted. The religious values were found to be at the lowest level and are consistent with other studies (Cívico-Ariza et al., 2020; Elzo, 2006; Gervilla, 2002) in which religious values are not well rated or show no difference between the responses of students from denominational and non-

denominational establishments. In contrast, the studies carried out by Black (2017) and Hill and Den Dulk (2013) were not coherent with the present study. The instrumental values are the least pleasant for students, and their low scores reveal that young people are not very materialistic, coinciding with the study by Murga (2008).

In terms of gender, this study showed no significant differences in the means between males and females, in line with the study of Marušić-Jablanović (2018), which indicates that the value priorities of male and female students are quite similar. Furthermore, the highest mean corresponds to affective values discovered in the male group, similar to that reported by Marušić-Jablanović (2018) and Vicentela et al. (2015). The results of this study are not similar to those achieved in gender differences conducted by Schwartz and Rubel (2005), which point out that women value security, benevolence, and universalism more than men. It opens the discussion on the importance of the cultural context in transmitting values. Quijano et al. (2016) and Sánchez et al. (2011) show that women prefer aesthetic, moral, and religious values, while men show greater interest in instrumental values. Furthermore, no significant differences between women and men in aesthetic values were found in this study, which is not in line with the results obtained by Angelucci et al. (2009).

Concerning the pedagogy program, significant differences were observed among the careers in the categories of values related to bodily, intellectual, affective, aesthetic, ecological, instrumental, and

religious values, which align with the study by Cámara (2010). In terms of a topic of concern is the great indifference to religious values. The students in the Early Childhood Education career showed above-average preferences in all value categories with the other professional careers. In previous research, Early Childhood Education is related to values such as democracy, discipline, care, and security, as described by Emilson and Johansson (2013) and Puroila et al. (2012). Communicating values at different educational levels is the prelude to organizing democratic life (Thornberg, 2008). At the same time, the low score for instrumental values contrasts with the findings of Karabati et al. (2010). Finally, the high score given by the participants in different careers in the moral and social values category is worth mentioning. In these categories of values, the professional careers of Basic Education Pedagogy, Language Pedagogy, Physical education pedagogy, and Early Childhood education stand out. Hence this study reflects high consistency with others that address the same subject, as mentioned in Lüdecke-Plümer (2007) and Lucena et al. (2011). They point out that vocational training centers should create educational policies for teaching values manifested in the social, individual, and affective moral categories to form reflective citizens.

At the level of faculties, significant differences were observed in aesthetic, individual, and moral values, which coincides with the study by Beltrán et al. (2005), who points out the importance of

aesthetic values. On the other hand, the marked preference for individual values coincides with the study by Zubieta et al. (2008), in which individuals express the need to determine their actions. Furthermore, the development of early practices in the different professional training processes is a space of encounter with others, which plays a role in triggering values, and consequently, the development of moral values becomes more visible and important (Navarro et al., 2012). Finally, the low score obtained for intellectual values is worrying. These intellectual values related to the acquisition of knowledge by future teachers to the development of children and young people in the construction of society are a challenge to be strengthened. It is also the responsibility of the different faculties to allocate efforts, procedures, and resources to discuss what values are being transmitted to future generations of education professionals and whether these are focused on implementing an education that will allow the creation of a fairer and better society.

Finally, as concluding remarks, the present study's first objective was achieved by identifying the values of preservice teachers in pedagogical programs at a regional university in Chile. The students of the three faculties of the University's pedagogical program surveyed for this study present axiological preferences expressed in corporal, intellectual, affective, social, moral, instrumental, and religious values. In addition, the participants' low interest in art and beauty is striking.

The second objective to determine the axiological hierarchy was also accomplished. The axiological analysis shows the following hierarchy of values: in the first place, affective values stand out, followed by moral values. Individual, social, and corporal values are presented in a second block, followed by intellectual values. Finally, instrumental and religious values are present far from the previous preference options. The axiological hierarchy of the participating pedagogy students shows that they significantly value aspects that have to do with emotional intelligence, decision-making, the development of their identity, and human relations. Finally, indifference is shown concerning the religious theme.

Regarding the third objective to determine whether there are significant differences in the hierarchy according to the gender variable, the analysis of preferences does not show significant differences in the means between these two groups. However, the female group stands out in moral, ecological, corporal, social, aesthetic, intellectual, and religious values. The male group, on the other hand, places affective values at the top of their axiological scale and religious values in the last place.

The final objective was to determine if there are significant differences in the three faculties' hierarchy of values in the prospective preservice teachers. In this case, significant differences in the hierarchy of values among participants according to the faculty in which they study are concentrated in three categories. The other categories of the survey do not present significant

differences. The categories that present relevant differences are aesthetic, individual, and moral values. It is important to mention that students belonging to the Faculty of Education Sciences reach the highest preferences in relation to the Faculty of Religious and Philosophical Sciences and the Faculty of Basic Sciences.

Finally, identifying and analyzing the values of students studying pedagogy at this Chilean university provides a starting point for reflecting on the importance of value education in the pedagogy curriculum. This study has made it possible to organize the knowledge and preferences about the values held by students in the Teacher Training Program for preservice teachers at a university in Chile. It provides us with important information that can be used by the management and teaching staff of the faculties examined to learn about the psychological profile of the students at this university. The students from the three faculties of the University's teaching program who were surveyed for this study present axiological intentions and preferences, among which non-material aspects stand out from more quantifiable ones.

It is important to emphasize that the profile of the average student in the preservice teacher-trainee training programs of a University in Chile, with the corresponding nuances of each graduation cohort/faculty, must present an interest in developing emotional intelligence, decision-making and, above all, caring for the environment. In addition, this choice is complemented

by aspects that refer to the identity of the individual, their bodily dimension, and their coexistence with other human beings. On the other hand, reference is made to intellectual knowledge and appreciation of aesthetics. Finally, both religious and instrumental values are the least appreciated by students.

IMPLICATION AND LIMITATION

The findings of the current research have a positive contribution as it provides us with information for decision-making and consistent implementation to the betterment of pedagogical training in accordance with today's society's problems and educational needs. Furthermore, this study explored the values of preservice teachers, which provides relevant knowledge regarding the challenges of the present and the future to be achieved. Consequently, it allows for realistically establishing a formative itinerary that addresses the major problems to which the education of the 21st century must urgently respond. Furthermore, the information obtained will help the pedagogical programs' authorities plan future changes in the curricula and the graduate profile.

Being a quantitative method study, a semi-structured interview of students could have strengthened the present research. Another limitation of the research is considering just a university to measure the perception of values. In the future, studies can be carried out to compare the value system between second and final-year university students to measure the impact of

university education on them and thereby take pedagogical decisions accordingly.

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Penal Protection for Consumers from Fake or Unreal Discounts: A Comparative Study of Emirati and French Laws

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ABSTRACT

When shops offer discounts, consumers are incentivised to acquire merchandise and/or services. So, it is also when merchants attempt to expand their product distribution and boost sales to increase profit margins. Unfortunately, merchants may also resort to disingenuous and fraudulent methods, such as announcing a fake or unreal discount sale. Since consumers require adequate legal protection from such harmful practices, Emirati and French legislators have criminalised fake and unreal discounts. This paper compares penal protection from fake or unreal discounts in Emirati and French legislation to balance the interests of merchants and consumers. This study adopts a qualitative methodology through a comparative and analytical approach and concludes that Emirati and French legislation adopts different criteria to achieve the desired goal of discounts. It was recommended that the Emirati legislator reconsider penalties for natural and legal persons committing commercial fraud by specifying up to three years imprisonment and a fine proportional to the value of the profits obtained from the crime of offering fake or unreal discounts. Furthermore, legislation should address the crime of announcing such discounts.

Keywords: Consumer protection, commercial fraud, fake or unreal discounts, natural and legal persons, penal protection

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INTRODUCTION

Several special offers are used to entice consumers to purchase specific goods or services; one such offer is a discount. However, discounted sales can negatively affect consumers, who may experience

reduced satisfaction with contracts, less freedom to choose between alternative products and services, and merchandise that does not conform to regulations designed to protect the health and safety of the consumer (Grewal et al., 1998; Raghubir et al., 2004). In this way, the consumer can be exploited or cheated. Additionally, consumers can be exposed to fake or unreal discounts that affect the right choice. It needs more time and effort to find some goods with unreal offers and requires unnecessary mobility to buy the needed items. A fake or unreal discount can also cause complications concerning returning the goods to the seller and bearing the risk of insolvency of the merchant through getting into what so-called apportionment of the rivals.

Many fake offers and unrealistic discounts exploit the instructions or legislation regulating discount offers. For example, the merchant could manipulate the specifications of the goods for which the discounts were being made or the prices of those goods so that there is no actual change in the prices of the goods. Furthermore, the merchant may announce misleading discounts on the prices of goods by claiming that a particular good is out of stock or announcing a reduction in the price of a commodity where the true quantity has been manipulated. This study compares legislation in the United Arab Emirates (UAE) and France due to the clear differences between UAE and French law to enrich the findings and recommendations of the paper.

Consumer Protection Law came into force on 27 July 1993 in France. In addition to the UAE government Federal Law (2012) on competition and UAE government Federal Law (2016) concerning the fight against commercial fraud (UAE Government, 2012, 2016), the Emirati legislature has enforced criminal protection for consumers via the UAE government Federal Law (2020) to combat commercial fraud (UAE Ministry of Economy, 2020). Furthermore, Emirati and French legislators have imposed binding legal rules that trigger penal sanctions if violated to prevent this. By establishing a minimum level of equality between the seller and consumer at the point of concluding a contract (Lasbordes, 2000), fairer competition in the market can be preserved. The research problem focuses on the statement of criminal responsibility for selling fictitious or unreal discounts. Misleading commercial propaganda depends on fraud, deception, and other immoral acts used when promoting goods, which can harm consumers physically and financially. Therefore, effective legal rules and regulations are required to mitigate these risks and identify the legal conditions that must be presented in sale discounts. Additionally, this study aims to compare the rules of penal protection and their sufficiency in protecting the consumer from fake or unreal discounts in Emirati and French law to balance the interests of merchants and consumers. The recommendation based on the findings of this research highlights the importance of activating a legal promotional tool that protects the rights of both consumers and sellers.

Due to the importance of the topic under investigation, many studies have investigated the legislation protecting consumers. One study that examined consumer protection laws in Indonesia found that most scholars use utilitarian and economic theories, supporting the argument that trademarks protect consumers by balancing the trademark holder's economic rights with the interests of the public as consumers. However, this was not the case in Indonesia (Marlyna & Sardjono, 2019). A study from Malaysia discussed consumer discrepancies, such as differences in educational level, age, geographical area, and economic status, which could lead to various issues. The most significant problems identified were possible information vulnerabilities that could affect consumer decision-making and the failure of regulations to safeguard Malaysian consumers and protect them from potential knowledge vulnerabilities (Ghapa & Ab Kadir, 2021). Another study compared unfair terms in consumer contracts in Malaysia and Singapore and concluded that regulatory and legislative steps must be taken to support and attract consumers to the industry. In addition, judicial and legislative actions must be taken to correct market flaws that increase consumer vulnerability while trading in the global market (Abdullah et al., 2021).

By adopting the comparative methodology, this research analyses Emirati and French law due to the clear differences between these two legal approaches to reach an optimal penal to protect consumers from fake and unreal discounts.

MATERIALS AND METHODS

This paper considers penal protection from fake and unreal discounts in Emirati and French law to determine whether there is a balance between the respective interests of merchants and consumers. This study adopts a qualitative methodology through a comparative and analytical approach used in the current study. All related legal legislations and literature related to the aim of this study are analysed, and consumer protection rules in French and Emirati laws are compared to evaluate the protection provided by the legislation mentioned above and propose the optimal form of protection. The specific legislations studied include UAE Government Federal Law (2020), which affords criminal protection for consumers; UAE Government Federal Competition Law (2012), and UAE Government Federal Law (2016) regarding combating commercial fraud (UAE Government, 2012, 2016; UAE Ministry of Economy, 2020). In addition, French legislation also regulates the rules of protection in French trade law and French consumer law. Based on the findings of this comparative critical analysis, conclusions are drawn, and recommendations are suggested.

RESULTS AND DISCUSSIONS

How Merchandise is Sold at Discount

It is important to define the sale of discounted merchandise and address the conditions of this type to understand the rules regulating discount sales.

Discounts. Product prices are important to consumers (Khan, 2011; Stoop, 2015), particularly those on low incomes. When prices rise, consumers have less purchasing power and a reduced ability to satisfy their needs; when prices fall, the opposite scenario occurs. In UAE, the legislator defines discounts as ‘offering goods for sale at reduced prices or providing services at lower prices during a specified period in any way whatsoever (UAE Ministry of Economy, 2020) regarding consumer protection. In France, the legislator defines discounts as ‘sales operations accompanied or preceded by advertising that aims to reduce the prices of available goods and to get rid of stockpiled goods in warehouses, during a specified period (De Gaulle Fleurance & Associés, 2019).

The French legislature focuses on clarifying the sales conditions by discount; for example, announcing these discounts before beginning the promotion. These discounts aim to encourage consumers to make purchases, increasing sellers’ cash flow during the discount sale period. The UAE legislator defines a discount sale without explaining any conditions or aims of this sale. The behaviour of the Emirati legislator regarding the definition of a discount sale is more disciplined as other texts detail the terms of sale by discount and the reasons for using it. There are many other jurisprudential definitions of discount sale offers (Mustafa, 2006), such as ‘Discounts announced by some shops to sell their goods which exist in the shop on the occasion of the end of the season, so they offer these goods for sale at reduced prices.’

It should be noted that the use of the word ‘discount’ is not necessary for a sale to be considered a discount sale if the intent of the sale, as seen in the advertisement, is to accelerate the sale of stored goods and includes price reductions, according to the (Court of Cassation Criminal Division, 2004). In line with the definition provided by the FCC mentioned above, a discount sale entails that goods will not be resupplied during the discount season. However, the company may supply its branches with goods from its warehouses as this is not considered resupply under the term ‘discount sale.’ The advertisement specifying the sale must indicate a) pre- and post-discount prices and b) that the sale will continue until the stock is depleted or within the limits of the existing quantity. Moreover, since the sale is a discount sale, it cannot occur outside the legally specified period (Lexis Nexis, 2022).

The Conditions of a Discount Sale.

To complete a discounted sale, certain conditions must be met to ensure that legitimate commercial practices are not violated. For example, a legislator can require that a licence for sale be obtained and the sale is advertised, including the sale period, to ensure adherence to the rules of legitimate competition. These points are addressed in the following sections.

Obtaining a Licence Before the Discount Sale.

Although a discount sale licence provides authorisation from the competent authority and is an important proactive measure, the French legislator does not

require such a licence, possibly because these sales may only be conducted at specific times (French Ministry of Economy and Finance, 2019). Article L310-3 of the FCC stipulates that sales can be held in two periods of the calendar year, each for three to six weeks, and the Minister of Economy determines the start date and time for these periods. This decision sets specific dates for some geographical regions by considering the nature of competition in these areas (De Gaulle Fleurance & Associés, 2019). Article L310-5 of the FCC stipulates a fine of €15,000 for non-compliance with these dates (Court of Appeal of Bourges, 2001); therefore, merchants need not apply for a licence to sell at reduced prices if the discount period is made public. Conversely, the UAE legislator requires a pre-sale licence for discount sales. Art. 18 of the UAE Government Federal Law, 2020 on consumer protection (UAE Ministry of Economy, 2020) states that the supplier is prohibited from promoting goods or services, making general price discounts, or advertising the same in any way until a licence has been obtained from the competent authority. Moreover, Art. 130(4) of the UAE Government Federal Law, 1993 on commercial transactions (UAE Government, 1993) requires that a trader wishing to sell goods or services at a discount must obtain a permit before advertising the sale, hold a valid trading licence, and be registered with the appropriate regional Chamber of Commerce.

Considering these French and UAE legislation trends, the UAE legislator has

sought to ensure the seriousness of discount sales by exercising control over licences to prevent consumers from being deceived. Additionally, it enables merchants to sell goods and services at a discount as and when required and in more than one period—as will be discussed later—rather than during only two periods defined by the French legislature.

Advertising. Advertising usually targets an unlimited audience and aims to promote goods and services rather than make direct sales (Dahiyat, 2011); its success usually depends on repeated advertising over a long period. A merchant will resort to selling goods at a discount for several reasons, such as because the goods are due for replacement by newer models, meaning their price will decrease, or because the goods are damaged. In the UAE, the merchant can only advertise the sale after obtaining a license from a competent authority. Such advertising is indispensable as it protects the consumer from being misled by an unscrupulous merchant offering goods for sale at a ‘discount’ price, which is higher than that offered before the advertisement.

The French legislature requires that the advertising of discount sales be arranged fairly and transparently; accordingly, using the word ‘discount’ or any of its derivatives to describe an activity unrelated to actual discounts is prohibited and carries a fine of €15,000. While any form of advertising is permissible, as the French legislature has made no specification, it must include a price reduction or will be viewed as false

or misleading advertising. It is because the consumer connects the word 'discount' to reduced prices. For example, the Paris Court of First Instance and the FCC found that advertising by post or sending invitations that include price reductions fulfil the advertising conditions required by Article L310-3. Sellers who wish to advertise discount sales must also have offered these goods for sale and paid the value of the goods at least one month before the discount period, except when the seller is the producer of these goods. The FCC also prohibits the publication of false or misleading information, by any means, by placing offers in the market or using deceptive methods with the intent of creating confusion in the market or attempting to fabricate the prices of goods or services.

The UAE legislator prohibits incorrectly describing a good or service. Art. 17 of Federal Law No. 15 on Consumer Protection (UAE Ministry of Economy, 2020) states that 'the advertiser, the supplier, and the commercial agent are prohibited from describing the good or service in a manner that contains incorrect data and from making any misleading advertisement in connection therewith.' Misleading advertising is provided for in Art. 1 of the same law as follows: 'Advertising a good or service based on deceptive information or omitting essential or basic information related to the good or service, which affects the consumer and leads [them] to enter into a contract that [they] would not have entered into without that information. For example, announcing fake or unreal prizes

or discounts shall be considered misleading advertising.' Here, commercial advertising can be defined as a method the merchant follows to psychologically influence consumers and convince them of the advantages of a particular good, service, or offer. A misleading advertisement involves false, misleading, or deceptive information that will likely cause the average consumer to act in a way they might not otherwise. The remarkable growth in advertising on the internet has also generated immense challenges for consumer protection. The absence of in-person interactions may create concerns regarding consumers being exposed to deceptive marketing or misleading advertisements online. At the regulatory level, the Telecommunications Regulatory Authority (TRA) in UAE has issued specific regulations for consumer protection. Under these regulations, advertisers must ensure that all advertisements are fair, truthful, and accurate, and must not, either by act or omission, directly or by implication, mislead or confuse any consumer (Dahiyat, 2019).

Adherence to Time Limits for Discounts.

The merchant must sell goods and services at a discount only during the period specified in their licence or the period specified by the competent authorities if no licence is required. In UAE, Art. 130(1) of Law No. 18 of 1993 on commercial transactions (UAE Government, 1993) prescribes the period of sale with discounts for seasonal goods and other goods. Seasonal goods may only be sold twice in the same year at a reduced price, while all other goods

may only be sold once. Discount sales may continue for up to thirty days, and biannual seasonal sales must be at least five months apart. However, the UAE Law of 2016 (UAE Government, 2016) added more flexibility by enabling merchants to apply for four permits. The discount duration is determined by the duration of the permit granted to the merchant, and he made the duration of the permit thirty days. The retail store owner may be granted up to four permits to conduct sales during one calendar year, provided each permit covers sixty days. Merchants can also extend the permit period for up to two weeks from the date of expiry of the previous permit upon request before the end of the permit period, as per Art. 7 of UAE Law No. 19 of 2016 (UAE Government, 2016). This law does not distinguish between seasonal and other goods.

The French legislator also requires that discount sale advertising include the start date and the nature of the goods covered by the discount unless the discount covers all goods sold by the merchant (Article R. 310-17, FCC). It is also prohibited to advertise discount sales outside the legally specified period (Cass com, 28 janv 2004: Gaz Pal., 28, 29 avril 2004, juris. nXVII, note J. Joseph; Cass.com., 2 juin 2004: RJDA 8–9/04, doct.).

Observance of the Rules of Fair Competition. Although trade should be based on the principle of fair competition, this principle can be exploited when traders resort to illegal methods to achieve quick

profits, negatively affecting the commercial environment, the consumer, and society. For example, some merchants resort to discount sales to restrict the freedom of competitors to set prices by selling goods and services at cost to monopolise the market (La Base Lextenso, 2022). Otherwise stated, when a merchant sells at a discount to harm the competition, this behaviour constitutes unfair competition.

UAE Federal Competition Law No. 4 of 2012 (UAE Government, 2012) emphasises the need to protect the consumer's interests by adhering to the rules of competition in the market and prohibiting anything that might breach, limit or prevent competition. Likewise, Art. L420-5 of the FCC also prohibits selling at extremely low prices compared to the expenses of production, processing, transfer, and trade if this may exclude or impede entry to the market of an institution, company, or competing merchant or one of their products. When a merchant sells at a loss (Bout R. et Alii, Lamy droit économique 2002, La revente à perte), in some cases, it is to generate liquidity and take the whole market share in the short term. However, this allows the merchant to gain a market monopoly, after which the merchant may increase prices dramatically. This monopoly practice contradicts direct and fair competition and carries with it prejudice against the interests of consumers. French law prohibits a merchant from selling or announcing the sale of a commodity at a price lower than its purchase price to maintain a healthy competitive environment. French commercial law also prohibits a

merchant from selling or announcing the sale of a commodity at a price lower than its purchase price if the commodity is in the same condition (Crim. 10 oct. 1996: Bull. crim. n° 358; D. 1997, IR, 20; D. affaires 1997, 216. Crim. 4 avril 2001: RJDA 2001, n° 1269) (De Gaulle Fleurance & Associés, 2019).

In estimating whether the sale was made at a loss or not, the French judiciary relies on the economic balance criterion for sale itself (Crim. 7 mai 2002: Bull. crim. N° 109; Contrats Conc. Consom. 2002, Comm. 159, obs. Malaurie-Vignal; JCP 2003, I, 103, n° 15, obs. Robert; RTD com. 2002, 738, obs. Bouloc). The same law defines the ‘real purchase price’ as ‘the total price appearing on the invoice plus taxes on the turnover, the special tax related to this sale, and transportation expenses.’ Therefore, the total value of the sale is considered (the general economic balance of the sale) to verify if the sale was made at a loss or not. Despite this general prohibition on selling at a loss (see Art. L.442–5), this is permissible in specific cases, as stipulated in Art. 2–L442 of the FCC, including discount sales (Art. L442–5). Thus, legal regulation of the sales process through discounts is necessary to eliminate unscrupulous methods of manipulating prices and balance the interests of merchants and consumers. To protect the consumer, the merchant also must not place restrictions on the guarantee of the sale or be a guarantor of the hidden sales in the sale, and, within the retail store, the merchant must distinguish those goods covered by discounts from those which are not. In application of the general rules in

the UAE Civil Transactions Law (Articles 543 to 555) and Articles 10, 11, 12, and 13 of the UAE Consumer Protection Law, it is forbidden for the merchant to place restrictions on the warranty of the sale as it was stipulated that no defect in sold goods should be guaranteed by sale. In French Civil Law, particularly Articles 1641–1649, 217–30, and 211–2 of the consumption rationing.

Thus, selling through discounts may be unreal or fake when a merchant resorts to displaying their products using false statements or claims that directly or indirectly deceive or mislead the consumer. It includes announcing a sale at a discount while pretending to obtain the proper permit while not possessing one and selling the commodity at a higher or similar price to that at which it was offered before the advertisement. Such actions are considered commercial fraud and are punishable by commercial fraud law (The Lawyers and Jurists, 2022).

Elements of the Crime of Unreal or Fake Discounts and ITS-Prescribed Penalties

The crime of fake or unreal discounts, as a form of commercial fraud, can only occur when the material (*actus reus*) and mental elements (*mens rea*) are present; therefore, the elements of the crime were clarified, and then more focus was placed on the prescribed penalty.

The Material Element (*Actus Reus*).

We have shown that discounted sales are regulated by the UAE legislator through

licencing, advertising, and specifying periods for conducting sales. However, the same legislator, in Art. 2 of Federal Law No. 19 of 2016 on combatting commercial fraud (UAE Government, 2016), considers the announcement of fake or unreal prizes or discounts as a form of commercial fraud. Undoubtedly, commercial fraud is related to consumed goods and the honesty and integrity required for commercial transactions. This matter goes beyond the individual to threaten public health and affect food stability and security since fake reductions contradict reality (El-Gendy, 1996; Yousef, 2009). A deception is achieved when the consumer is misled that the subject of a discount has advantages and qualities which do not exist; the offender's aim in so doing is the financial advantage gained by replacing the item the buyer chose with one of lesser value. Accordingly, commercial fraud occurs when fake or unreal prizes or discounts are proactively announced by an offender who does not adhere to the legislative conditions, such as making general price reductions or obtaining a pre-sales license from the competent authority, as per Art. 18, UAE Federal Law No. 15 of 2020 (UAE Ministry of Economy, 2020).

Further, the advertiser, supplier, and commercial agent are prohibited from describing the good or service in a manner that contains incorrect data and from using misleading advertisements (Art. 121(2) of the French regulation on consumption). The UAE legislator defines misleading advertisements in Art. 1 of Federal Law No. 15 of 2020 on consumer protection,

stating that 'A misleading advertisement is advertising a good or service based on misleading information or omitting essential or basic information related to the good or service, which affects the consumer and leads [them] to enter into a contract that [they] would not have entered into without that information. Announcing fake or unreal prizes or discounts shall be considered misleading advertising'. Hence, the material element of the crime is achieved through the proactive behaviour of the offender but is not achieved by abstention. For example, such behaviour occurs when a merchant substitutes a discounted, advertised commodity for a different one. Such differences can relate to the discount terms on form, content, price, expiry date, weight, quality, and legal specifications and standards. These differences can also relate to a false declaration that a product or service is only available for a limited period or that it will only be available under exceptional circumstances for a limited period to obtain an immediate decision and deny consumers the ability or sufficient time to make an informed decision (Art. 121(4) of the FCC). The dealer promotes goods and services by various means of advertising and publicity, which can be implemented by display, publication, or other means.

The use of the word 'discount' is not necessary for the sale to be considered a discount sale if the intent, as it appears from the advertisement, is to expedite the sale of stored goods, and the advertising wording includes the price reduction (Crim. 13th Jan. 2004, Bull. Crim. N 10) (Court of Cassation

Criminal Division, 2004). However, the criterion adopted for considering the sale one of discount is to dispatch a quantity of previously existing and non-renewable stored goods by accelerating their sale through a reduced price with the help of publicity and advertising. Therefore, criminality is not covered here; instead, a discount sale is implied where it is enough that the conditions are met, regardless of what it is called.

The Mental Element (*Mens Rea*). The crime of announcing fake or unreal discounts is considered a premeditated crime in which the mental element takes the form of general criminal intent. It is based on knowledge and will, whereby the offender's will is directed towards committing the crime with knowledge of its elements and components, as required by law. The UAE legislator defines criminal intent in Art. 38(1) of the Penal Code as follows: 'the intent is present when the will of the perpetrator is directed towards the perpetration of the act or forbearance thereof, whenever this perpetration or forbearance is considered by law a crime, with the intent to produce a direct result or any other result penalised by law and which the perpetrator expected.'

The knowledge element must include all the components of the material element of the crime, Art. 2 of Federal Law No. 19 of 2016 (UAE Government, 2016), that is, when the offender is aware that their action constitutes the announcement of a fake discount, is contradictory to honest commercial practice and does not meet the

conditions for a discount sale (a licence, advertising, observing a specified period for conducting discounted sales and respecting the rules of fair competition). However, if the offender is unaware of committing a crime, this abolishes the mental element and accordingly terminates the existence of the crime. The criminal intent is not achieved by knowledge alone, as the offender's free and flawless will must be to announce fake or unreal discounts, and their volition should be to violate the terms of discount sales. If there is no will, the mental element is absent, and, as a result, the crime does not exist. Hence, an offender who announces fake or unreal discounts under the influence of coercion or insanity is exempt from criminal accountability as they are not consciously willing to achieve this act.

The French judiciary considers the misdemeanour of deception as a misdemeanour based on criminal intent of the commercial practices you engage in of your own free will (cour de cassation criminelle, criminelle, 13 janvier 2016, décision n0 14-88,136, le legifrance.gov.fr, consulte le 9-1-2022. See also: Cour de cassation, criminelle, Chambre criminelle, 19 novembre 2019, 18-84.693, Inédit and Cour de cassation, criminelle, Chambre criminelle, 19 novembre 2019, 18-85.900, Inédit).

The Prescribed Penalty for the Crime. A criminal penalty is an impact that the legislator stipulates for the crime. In this regard, the UAE legislator distinguishes whether the perpetrator of the crime is a

natural or legal person and stipulates several circumstances that tighten the penalty. The next sections focus on the prescribed penalty for natural and legal persons. A natural person is someone who can acquire rights and responsibilities. A legal person is a collection of money or individuals for whom the law has recognised legal personality, i.e., the ability to acquire rights and perform obligations; this collection is viewed separately from the natural persons or constituent elements such as a company or organisation.

The Prescribed Penalty for a Natural or Physical Person. The UAE legislator stipulates the penalty for the crime of announcing fake or unreal discounts in Art 12 of Federal Law No. 19 of 2016 on combatting commercial fraud (UAE Government, 2016) (hereafter: the law) as follows: ‘Whoever commits the crime of commercial fraud shall be sentenced to imprisonment for a period not exceeding two years and to a fine not less than fifty thousand dirhams and not exceeding two hundred and fifty thousand dirhams, or to either penalty’ In Art. 13 of the law, the UAE legislator attempts to provide criminal protection to the consumer; thus, the penalty is not limited to the complete crime but also to merely attempting the crime, as in the following: ‘Whoever attempts to commit the crime of commercial fraud shall be sentenced to imprisonment for a period not exceeding one year, and to a fine not less than ten thousand dirhams and not exceeding one hundred thousand dirhams, or to either penalty.’

Regarding foodstuffs, the legislator has also tightened the penalty in the following context: ‘Whoever commits the crime of commercial fraud or attempts the same if the commodities are food for humans or animals, prescription drugs, crops or organic food products, shall be sentenced to imprisonment for a period not exceeding two years, and to a fine not less than two hundred and fifty thousand dirhams and not exceeding one million dirhams, or to either penalty (Art. 14). The legislator also accounts for recidivism in violation of the law in Art. 20 by doubling the prescribed penalty. If the purchaser knows a commodity is fake, corrupt, or counterfeit, the merchant is not exempt from the penalty prescribed under Art. 16 of this law. Food must be intended for human or animal use, and if it is for industrial purposes, the fraud here does not fall under this phrase. Likewise, foodstuffs related to animals are covered by the legislator’s protection, which is specific to animals held by humans, such as domestic animals (Hoseini et al., 2014; Sadek, 2001). In this regard, the legislator has successfully tightened the penalty, thus offering important protection to consumers from foodstuffs that can endanger human life and safety and have negative effects long after the individuals have consumed the products. Art. 17 also provides, in addition to the prescribed penalty, for a mandatory confiscation or destruction of the food, prescription drugs, crops, products, or tools used therein and for publication of the ruling at the expense of the losing party in two local daily newspapers, one issued in Arabic.

This penalty applies to all forms of commercial fraud provided for by the law. It is inconsistent with the principle of individualising sanctions and prescribed penalties, as the law allows the judge to impose one of two penalties, meaning it is possible to impose only a fine. Given the importance of commercial activities, such provision is insufficient to achieve public and private deterrence, reducing the seriousness of the crime. Therefore, it was recommended that a unique text should distinguish the crime of announcing fake or unreal prizes or discounts in the law and that the penalty be commensurate with the crime's importance. It was also believed that a sanction of imprisonment be imposed of up to three years, left to the judge's discretion, and that the fine is proportional to the value of the profits obtained through the crime. These penalties are more aligned with those sanctioned in France, where Art. L132-2 of the FCC provides that whoever commits any deceptive business practices mentioned in Arts. L.121-2 to L.121-4 shall receive a prison sentence of two years and a fine of €300,000. This fine may be increased proportionately to the benefits derived from the crime to 10% of average annual turnover, calculated across the last three known annual sales at the date of the facts, or to 50% of the expenses incurred in the realisation of the advertisement or practice from the offence (Cour de cassation, criminelle, Chambre criminelle, 2 avril 2019, 19-90.008, Inédit <https://www.legifrance.gouv.fr>).

A natural person who commits any act stipulated in Art. L.132-3 of the FCC

shall be punished with additional sanctions that prevent them from exercising a public office, practising a commercial or industrial profession, undertaking any social activity whatsoever, and directing or managing any activities, whether commercial, industrial or functional, directly or indirectly, on their own or their employer's behalf, such as is the case of acting on behalf of a commercial or industrial company. The French legislator has stipulated that the ban period may not exceed five years and can be pronounced in omnibus form. Undoubtedly, the UAE legislator has not stipulated the additional penalties applicable to a natural person in French legislation. Therefore, this requires amending Emirati law to include such penalties to deter natural persons from committing deceptive and misleading commercial practices.

The Prescribed Penalty for a Legal or Moral Person. The UAE legislator stipulates in Art. 65 of the Federal Penal Code that legal persons may not be condemned to penalties other than fines, confiscation, and the criminal measures provided for by the law. Accordingly, the original penalty prescribed for a legal person when a crime is committed on their behalf, in their name, or through one of their agencies, representatives, or employees is a fine, as stated in the original sanction for a natural person. In addition to this penalty, the UAE legislator stipulates an additional penalty, which is the closure of the violating establishment for a period not exceeding six months; if the establishment is a department

store, the violating department or section related to the violating commodity shall be closed and a notice placed on the closed section or department stating the reason for the closure (Art. 18 of the law). Furthermore, the relevant court will cancel the licence of the establishment (Art. 20 of the law) in case of recidivism paired with aggravating circumstances (Art. 14 of the law).

In French law, the penalty for a legal person, in addition to the fine stipulated in Art: L132–38 of the French Penal Code (Office of Justice Programs, 2019), is five times that stipulated in Article L132–2 of the FCC, i.e., the fine will be $5 \times \text{€}300,000 = \text{€}1,500,000$. One or more of the other penalties stipulated in Clauses 2–7 of Arts: L131–39 of the Penal Code shall also be imposed, including the following:

1. a prohibition from exercising, directly or indirectly, one or more social or professional activities, either permanently or for a maximum period of five years
2. placement under judicial supervision for a maximum period of five years
3. permanent closure or closure for up to five years of the establishment, or one or more of the establishments, of the enterprise that was used to commit the offences in question
4. disqualification from public tenders, either permanently or for a maximum period of five years
5. a prohibition, either permanently or for a maximum period of five years, from making a public appeal for funds

6. a prohibition from drawing cheques, except those allowing the withdrawal of funds by the drawer from the drawee or certified cheques, and a prohibition from using payment cards for a maximum period of five years.

After reviewing the prescribed penalty for the crime of announcing fake or unreal discounts in French and UAE legislation, it was found that the penalties stipulated in the former more successfully achieve public and private deterrence than in the latter. Therefore, the UAE legislator must reconsider the current penalties to deter commercial fraud.

CONCLUSION

This paper has covered how discounts affect consumer protection and fair competition in the market. The respective competition and consumer protection rules aim to enhance consumer welfare, ensuring the effective functioning of markets and correcting defects within them. However, the approach of each set of rules concerning this goal is different; competition rules address the supply side and aim to ensure that consumers have adequate choices at low cost, while consumer protection rules address demand and aim to enable consumers to exercise choices freely and transparently. This comparison of French and UAE legislation has focused on how these laws regulate discounts and shown how each affects consumer protection and fair competition.

Emirati and French legislators have worked to control the process of selling

discounts by imposing a set of restrictions that every merchant or facility must abide by and not leave resorting to them without imposing control over them by ensuring that the necessary conditions are met to conduct them and, in case of violation, subjecting the merchant to the stipulated penalty. It would provide the necessary protection for the consumer from illusory discount offers; the legislator worked to establish a balance by affording merchants the right to engage in discount selling to trade accumulated goods or obtain cash. However, this is subject to the availability of the conditions set by the legislator to engage in such sales to provide the necessary protection for the consumer.

Based on the findings of this study, it is recommended that the UAE legislator amend the Federal Law No. 19 of 2016 regarding combating commercial fraud by reconsidering penalties for natural and legal persons committing commercial fraud, including fake or unreal discounts, and that the crime of announcing fake or unreal prizes or discounts should be uniquely specified in the Law on Combatting Commercial Fraud. In addition to protecting the consumer from sale offers with discounts publicised via online websites.

Popular figures often announce promotional offers at discounted prices for certain goods and services on social media, causing their followers to make purchases. However, the discounts are often fake; thus, the intervention of legislature at international and national levels is required to control such fake advertisements. The UAE government must arrange awareness campaigns to

enable consumers to understand their rights and duties to ensure consumer protection and preserve their rights, which can be considered one of the most effective methods. By activating communication through which information about goods, services, and ideas is transmitted to citizens to familiarise them with products and convince them to accept or reject what has been announced in terms of components, they will receive certain benefits. Further, the penalty should match the crime's importance, and a freedom-restricting sanction of up to three years should be added and left to the judge's discretion. Finally, a fine proportional to the value of the profits obtained from the crime should be imposed. Future research should focus on the role of social media on consumer behaviour to establish legislation to protect consumers from fake discounts promoted online.

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Case Study

Impact of COVID-19 Pandemic in Malaysia: A Critical Survey

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ABSTRACT

Since the COVID-19 outbreak was discovered in Malaysia on January 25, 2020, it has impacted many aspects of Malaysian life, including health, lifestyle, and economic changes. As a result, this study was carried out to conduct a more thorough investigation into the problems and effects experienced by the public in Malaysia as a result of the disease outbreak. The study was conducted for six months, from January 2020 until June 2020, and 100 people were chosen randomly as the study sample. The method employed online questionnaires administered via the Google Forms platform. Based on the study's results, the COVID-19 pandemic negatively impacts the community's physical and mental health, especially among students and employees. COVID-19 also affects peoples' lifestyles, and many have difficulties adapting to the new norms, as these changes involve how people socialize, learn, and work. The study also found that COVID-19 also negatively impacts the economy of individuals, communities, and countries, based on the current spending of Malaysian society and the affected industrial and worker conditions.

Keywords: COVID-19, Google forms, impacts of COVID-19, Malaysia, survey

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INTRODUCTION

Novel Coronavirus 2019, or COVID-19, is a type of virus that infects the human respiratory tract. The outbreak of the disease has shocked the entire world with the extent to which it affects individuals, communities, and the economy. The disease's first outbreak was discovered in early December 2019 in Wuhan City, China (Guo et al., 2020).

Malaysia discovered its first case on January 25, 2020, involving three Chinese nationals in close contact with infected people in Singapore (Elengoe, 2020). The Malaysian Ministry of Health (2021) reported 2.79 million cases of COVID-19 infection as of January 8, 2022, with a total death toll of 31,678. Aside from health implications, the disease outbreak has a wide range of consequences regarding the physical change, mental health, life norms, and social and economic factors.

Impacts on Physical and Mental Health

The community was very concerned about the COVID-19 infection due to the high rates of illness and its implications on individual physical health. Most infected people experience flu, fever, or a loss of taste, which will disappear after a period. However, some cases have more severe symptoms, such as pneumonia, which can be fatal.

COVID-19 also indirectly impacts the public's general health because of lifestyle changes and lack of physical activities following the government's Movement Control Order (MCO) enacted to stop the virus from spreading into the community. Individual weight gain is one of the consequences of the lack of physical activities. For example, a study on the population of Spain conducted by Sánchez et al. (2021) discovered that 44.5% of the 1000 respondents gained weight during the country's lockdown. This weight change is alarming because it can lead to more dangerous diseases such as obesity, heart

disease, and high blood pressure, putting people at more risk when dealing with COVID-19 infection (Sattar et al., 2020).

Besides changes in body weight, another indirect effect of COVID-19 on physical health is eye strain, fatigue, and back pain. The new method of studying and working online from home has caused people to be exposed to longer screen time compared to normal conditions. These problems are common among workers who spend hours in front of the computer doing desk jobs. However, due to the implementation of MCO, where schools were closed and students were forced to study online, these problems have also begun to affect students from an early age. According to research by Kaya (2020) on 402 university students, online education during this COVID-19 pandemic has negatively affected university students' eye health. The deteriorating eye health was due to increased eye fatigue due to prolonged exposure to the screen. Similar results were obtained by Ting et al. (2020), where the primary subjects were students in primary school in Sarawak. The research reported that headaches, eye strain, and pains in the neck, shoulder, and back were among the common health issues faced by these students.

In addition to physical health, the outbreak also poses severe negative impacts on the mental health of individuals, though most people are still unaware of its implication. Compared to physical health, mental health is still stigmatized or considered taboo, so it is not usually up for public discussion. The 2017 National Mental

Health Study reported that at least one in every five youths suffers from depression and is a proclivity to commit suicide (Ashaha, 2019). The number is also expected to rise because of the implementation of the MCO, which requires the public to remain at home for extended periods. According to the Malaysian Ministry of Health, 44,000 calls about mental health issues were received in 2020 (Mat Ruzki, 2021), and it has increased drastically to an alarming level in 2021. The Psychosocial Support Helpline reported that between January 1 and June 18, 2021, the line received 110,000 calls requesting emotional support and counseling (Mohd Noor, 2021). Furthermore, MOH data revealed that 1,080 suicide attempts were treated in MOH hospitals in 2020 (Roslan, 2021). Gritsenko et al. (2020) also discussed the increasing number of cases of substance abuse and suicidal behavior due to the declining state of mental health during the pandemic. Cases of substance use, such as tobacco, cannabis, alcohol, or prescription drug, were increasing as they were used as a coping mechanism when dealing with the stress, anxiety, or depression they had during the pandemic.

Many factors contributed to the deteriorating state of mental health in the community. Additional stresses derived from adapting to the new life norms have been identified as one of the causes, and students were among those who were heavily affected by these changes (Commodari & La Rosa, 2020). For students, apart from the changes in daily life related to COVID-19, factors such as declining academic perspectives,

vast e-learning adoption, financial issues, and social restrictions were some of the identified stressors (Browning et al., 2021; Cielo et al., 2021). In a study by Moy and Ng (2021), 80% of the participants agreed that online learning was not as effective as face-to-face learning due to several factors. It caused stress among students as they had more difficulty coping with their studies. Students also reported that they have more homework compared to before they started online learning, thus causing them to have little free time to relax and de-stress (Commodari & La Rosa, 2020). In a study done by Islam et al. (2020) on a total of 476 university students living in Bangladesh, it was reported that they suffered from severe depression and anxiety. Apart from these effects, Cielo et al. (2021) reported other common mental effects, such as event-specific distress and changes in sleeping habits.

On the community level, the additional stresses derived from the changes in new life norms have been identified as one of the causes of the increasing mental health problems. In addition, other factors influence societal mental health, such as employment, learning, social, and economic factors. The loss of family members due to COVID-19 infection is also one of the causes of mental health deterioration in Malaysia (Roslan, 2021). Due to issues such as job losses and business failures, the pandemic has had a significant impact on employees and employers. According to a *Berita Harian* report, over 800,000 Malaysians have lost their jobs because of the COVID-19

pandemic (Parzi & Abd Karim, 2020). Loss of main income or dependent position adds to the individual's stress and causes mental health to deteriorate. Individuals still working face difficulties such as salary reductions and increased working hours. Individuals with salary deduction issues must work part-time to support their income. This increase in working hours and lack of rest causes physical and mental stress in the individual.

Frontliners and critical sector workers are among those who frequently experience extreme stress and fatigue because of long working hours (Roslan, 2021). Untreated stress can potentially contribute to worse outcomes, such as suicide. According to the report by *Utusan Malaysia* newspaper, in Penang alone, on average, at least 10 people have committed suicide in a month (Ismail, 2021). It refers to data indicating that 53 suicide cases were reported between January and May this year. During the same time frame, 19 suicide attempts were also reported. High debt burdens because of job loss, stress, and family problems were among the factors that prompted people to commit suicide during the COVID-19 pandemic. Apart from the working environment, the individual living condition also affects a person's mental health. People who live in apartments or flats are more stressed than those who live in landed houses. Lack of space to take a breather and walk around has caused them to stay inside, which can be stressful in the long run. This problem is evident when many people live in the same household. The absence of personal

space for individuals to study or work might also disrupt the learning and working process, which will then cause more stress to accumulate.

Apart from students and working adults, COVID-19 affects pregnant mothers' physical and mental health. In terms of physical health, even though pregnant women were found to have a similar risk of infection compared to the general population, there is growing evidence showing that they are at higher risk of developing severe illness once infected with COVID-19 (Wang et al., 2021). They were shown to be more likely to be admitted to the intensive care unit, to be intubated, to require mechanical ventilation, and to be at higher risk of composite morbidity (Kotlar et al., 2021). Pregnant women infected with COVID-19 were also at higher risk of pregnancy complications, such as fetal distress, preterm delivery, stillborn, and miscarriage (Kotlar et al., 2021; Rasmussen et al., 2020; Royal College of Obstetricians & Gynaecologists, 2021). The lack of a limited number of physical activities due to quarantine also affects the physical health of pregnant women. Biviá-Roig et al. (2020) reported that during quarantine, there was a significant decrease in the amount of physical activity, such as walking, and participants spent more time sitting during quarantine. In his study, the decreased number of physical activities by pregnant women was attributed to the lack of space.

In terms of mental health, several studies were done on the relationship between COVID-19 and the mental health condition

of pregnant women. In a study by López-Morales et al. (2021), pregnant women had a more dramatic rise in depression, anxiety, and other negative effects than non-pregnant women. The study was conducted during quarantine, and the isolation due to COVID-19 was found to be one of the contributing factors to the increase in depression and anxiety amongst pregnant women, apart from anxiety about possible obstetrical outcomes such as fetal death or fetal abnormalities (Saccone et al., 2020). A similar study was done by Ayaz et al. (2020) and Kotlar et al. (2021) on the effect of COVID-19 on pregnant women during and before the pandemic, which also showed increasing effects in the number of pregnant women with anxiety and depression during the pandemic.

Impact on Lifestyle Changes

Individual Lifestyle. Apart from health concerns, COVID-19 infection has indirectly impacted societal lifestyle changes. Adapting the new rules for individual aspects means adjusting people in response to the country's pandemic to meet personal and environmental survival needs. In addition to practicing social distancing when visiting public places, authorities require wearing a facial mask for everyone who visits public places such as offices, shops, hospitals, markets, and others. The adaptation of these new norms, based on the World Health Organization (WHO) recommendations, has been shown to curb the spread of the virus (Mohamed & Wan Sulaiman, 2020). However, the government

has also implemented the MCO to reduce the spreading further, prohibiting cross-state and district and implementing learning and work sessions from home. In addition, most public places, such as shopping malls, gyms, and others, were closed as part of the MCO implementation. These factors contribute to decreased physical activity and cause people to become inactive.

According to a report from Hu et al. (2020), out of 1,033 respondents, 40% of respondents reported having physically inactive leisure time, and about 90% of respondents reported increased screen time. A study conducted in India by Chopra et al. (2020) reported that the mean score difference for involvement in moderate-intensity aerobic exercise before and during the pandemic was -0.12. Meanwhile, for participation in leisure activities, the difference was 0.49, indicating that most respondents lived sedentary lifestyles. The same report also stated that 1/3 of respondents had gained weight during the pandemic. Regarding dietary style changes, in a report by Hu et al. (2020) involving respondents from China, about 30% of them began to practice healthy eating styles during the pandemic. In the report by Chopra et al. (2020), which involved respondents from India, it was reported that half of the respondents had no changes in their diet, 29.9% ate healthier, and 18.56% had a worse eating diet compared to before the pandemic. Based on surveys conducted, among the factors influencing these dietary changes were fear of the spread of the COVID-19 virus (43.8%),

preferring home-cooked food (25.2%), and being less involved in outdoor dining and social activities (23.6%). Although there are positive changes in nutrition style, they cannot help improve the overall life of society if society still adopts a sedentary lifestyle.

Working Methods. The new norm challenges employers and employees in terms of work culture. Minister of Human Resources Datuk Seri M Saravanan said workers and employers need to change how they work, think, act, and interact in tandem with the current situation (Fazlul Haque, 2020). Working from home is a new norm that requires efficient personal adaptation methods for all employees and employers to maintain the quality of a job. Employers have used various methods to accommodate their employees' needs, including flexible working hours, job sharing, job rotation, weekly shifts, and project-based work schedules. The element of flexibility has been in use in Malaysia since 1998, when the government implemented Phased Working Hours across all federal government agencies. It was later enhanced with Flexible Working Time in 2019 (Abdull Rahman, 2020). Simultaneously, these flexible work arrangements can assist low-income female workers in supplementing family income by doing part-time work at home, managing the family's well-being, and reducing family expenses such as childcare costs. Employees can also better organize their work schedules and spend more time with their families. Transportation can also save time and money because they do not have to commute

to work. Flexible work arrangements made by employers and employees can aid in adapting to new norms and ensuring job stability. Despite its many advantages, working from home also has its drawbacks. One common challenge when working from home is gaining stable internet access. In addition, more stress may also occur when work is disrupted due to environmental disturbances, such as managing children while working from home (Sulaiman, 2020).

Learning Methods. The new norms in the education system during COVID-19 also require school students and institutions of higher learning to begin learning from home. They must use video conferencing applications that require stable internet access, such as Zoom, Skype, Google Meet, and others, similar to many workplaces that work from home. While online learning is an important requirement in Industrial Revolution Education 4.0, the constraints faced by some students should also be considered. According to *Berita Harian (Capaian internet, 2021)*, one of the major challenges faced by many Malaysian students who want to study online is the lack of proper electronic gadgets and internet access, particularly students from families in the B40 group and students living in rural areas. Harun et al. (2021) survey revealed that 74% of students faced internet coverage problems and connectivity issues in online T&L.

The consequences of being unable to attend classes due to a lack of a suitable gadget and stable internet access cause some of the students to be dropped from

the learning session, thus affecting students' overall academic results (*Capaian internet*, 2021). These problems are more evident in new students entering schools or higher education. For current students who have experienced online learning before, adapting to the same learning method in the following year is fine. As for students who are having their first sessions of school through online learning, the process of adapting will be harder. The lack of direct communication between students, teachers, and classmates makes learning more challenging.

It will be more critical if the students are in a non-conducive place to learn and are disturbed by their siblings. The same problems were also faced by teachers, as they had to come up with a new syllabus and teaching techniques to deliver their lessons as transparently as possible to the students. In conjunction with the learning method, Alam and Parvin (2021) have studied the impact of students' job readiness in higher education for pre and post-COVID-19. They have suggested that a proper policy framework should be enforced to avoid a "diploma disease crisis" (p. 2) to secure the quality and integrity of education.

Impact on the Economy

Income loss is one of the most serious consequences of the COVID-19 pandemic. According to Berita Harian news, over 800,000 Malaysians have lost their jobs (Parzi & Abd Karim, 2020). Among the people facing this problem are individuals who traded on a small scale, following the implementation of the MCO, which ordered

the closure of most shops that are not in the group of essential services, such as medicine and food. Most traders started trading after being laid off from work. Those who receive daily wages working in farmers' or night markets are most affected (Abdul Aziz, 2021). In addition to small traders, workers in the tourism and transportation industries are also affected due to the freezing of the tourism sector at home and abroad during the pandemic period. Among the airlines affected by the COVID-19 pandemic was Malindo Airways Sdn Bhd, having to lay off approximately 2,200 employees (Bernama, 2020a). For those still employed, some companies made salary deductions ranging from 30% to 50% on the grounds that their business is impacted (Kamarulbaid, 2020). As a result, workers may need to supplement their income by working as food delivery drivers through the Grab Food or Food Panda applications.

The Malaysian Department of Statistics (DOSM) also conducted an online study to investigate the impact of COVID-19 on the economy and individuals. The study found that 78,372 surveys out of 168,182 admitted to losing employment because of the COVID-19 outbreak (Halid, 2020). According to the study, it was found that 71.4% of the respondents who worked had financial savings, which could last them less than one month. The study also discovered that job losses in the agriculture and services sector were higher than in the other sectors, accounting for 21.9% and 15% of total respondents, respectively. Apart from the impact at the individual level, the country's

economy was similarly affected by the COVID-19 pandemic. In 2020, Malaysian Prime Minister Tan Sri Muhyiddin Yassin announced that Gross Domestic Product (GDP) had decreased by RM10.8 billion from RM17.3 billion due to losses from the tourism sector (Adnan & Halid, 2020). Apart from the tourism sector, the services and trade sectors also suffered losses, thus affecting national income.

METHODOLOGY

The survey method was used for the study, one of the methods of inference study that uses quantitative and qualitative data obtained from the investigation session. It was carried out online using the Google Form platform, where the respondents were required to answer the questions on the form provided. We have tailored the survey and referred to the requirement listed in the CHERRIES (Eysenbach, 2004) checklist to investigate the results of the Web Survey. For example, it states that the survey should be designed with either convenience or hard questions or either open or close questions.

Study Duration

The review period takes six months, from January 2020 until June 2020. The questionnaire was distributed during the survey, and the results were recorded and analyzed.

Sample Selection

The respondents in the sample were chosen at random. One hundred people were randomly chosen to answer the

questionnaire: students and non-students. The Google Forms questionnaire was distributed via the WhatsApp, Facebook, and Twitter applications. This method was preferred because the respondents were civilians who did not live in a specific area, making it easier for distribution purposes and more cost-effective and time-saving. The distributed questionnaires are more than 100. When we received 100 responses, we took them for the further participated subject since it already complied with a normal population in a simple random sampling.

Study Instruments

The study used online questionnaires to collect data for this study. The questionnaires are distributed using Google Forms. Respondent feedback is used as the primary data in this study. This questionnaire is divided into five sections: (i) respondent's background, (ii) changes in health, (iii) changes in lifestyle, (iv) changes in working or studying methods, and (v) economic change among Malaysians. The data obtained from 100 respondents are analyzed and presented by the researchers in the form of pie charts, bar graphs, and schedules. Analysis or discussion of the data is incorporated along with the data presented. Graphs are chosen since they are a powerful tool to display quantitative data that can be measured and focus on numbers and statistics. The data presented in this study only includes 100 random respondents, which are grouped into simple categories to be presented in pie charts and bar graphs.

RESULTS AND DISCUSSION

Respondent Demographics

The study included 100 Malaysian residents from various states, including 30 women and 70 men (Table 1 and Figure 1). The majority of the 100 respondents were between the ages of 21 and 30 (44%) and between the ages of 12 and 20 (40%). The numbers were followed by 4% from the 31–40 age group, 5% from the 41–50 age group, and 7% from the 51 years old and above age group. However, the information about ethnicity was not included in the consideration.

Most respondents (80%) were unemployed since they were still studying

or furthering their studies at university (age 25 and under; Figure 2). Only 16% of the respondents were currently employed, and the remaining 4% were pensioners. Fifty-one percent of the respondents live in urban areas, and the rest live in rural areas.

Changes in Health

Physical Health. According to the findings, 63% of respondents followed a typical three-meal-a-day schedule (Figure 3). However, 69% of respondents experienced a weight gain of 1–5 kg after the MCO (Figure 4).

Although most of them followed a regular mealtime schedule, weight gain still

Table 1
Statistic of respondents according to their age

Age	Percentage (%)
Below 12	0
12–20	44
21–30	40
31–40	4.5
41–50	4.5
51 and above	7

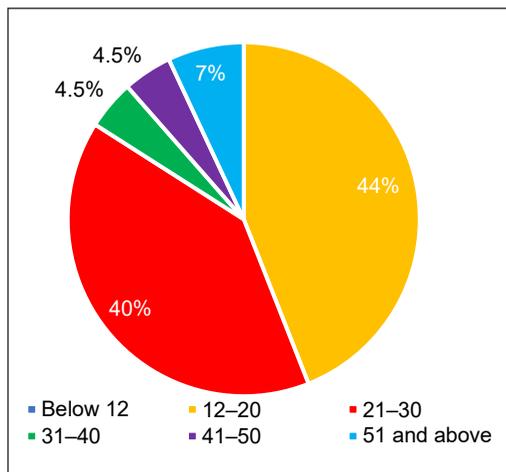


Figure 1. Respondent's age group

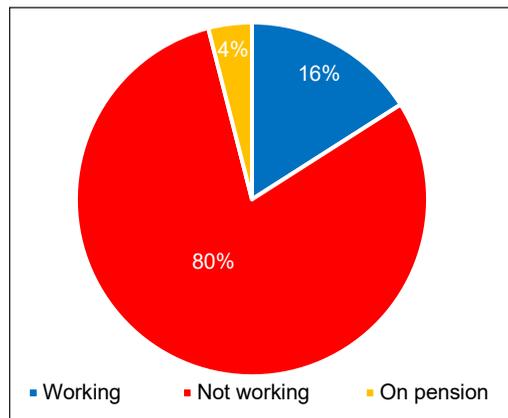


Figure 2. Respondent's employment status

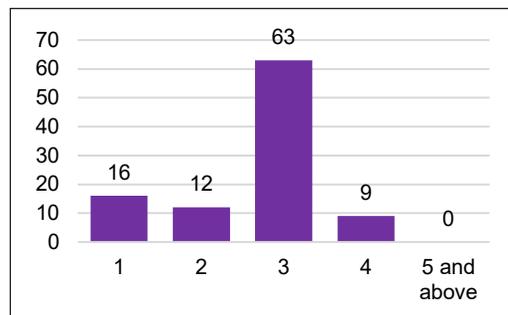


Figure 3. Frequency of food intake in a day by respondents

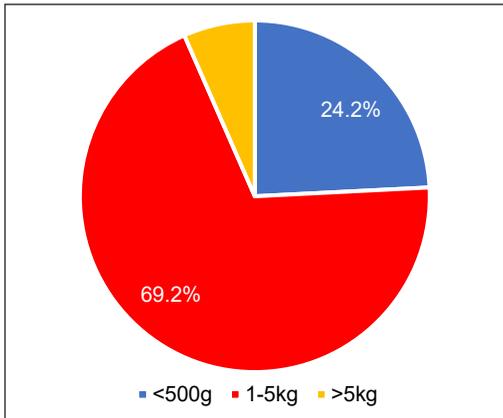


Figure 4. Changes in the weight of respondents after the Movement Control Order (MCO) was implemented

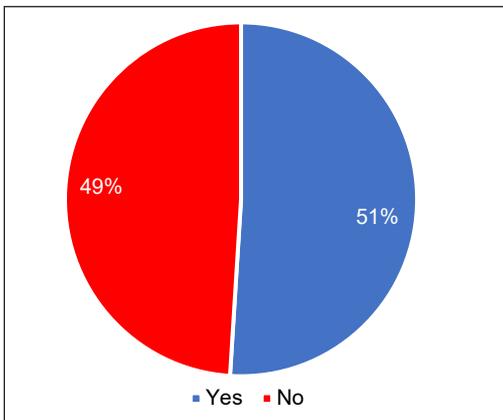


Figure 5. Number of respondents who experienced stress during the COVID-19 pandemic

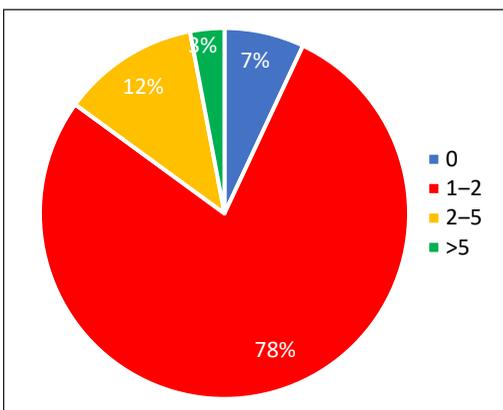


Figure 6. Frequency of respondents leaving home within a week during the pandemic

occurs due to changes in the individual’s daily routine. During MCO implementation, Malaysians are only allowed to work or study from home. Lack of movement and physical activities are among the causes leading to individual weight gain. Weight gain can lead to more serious diseases such as obesity, heart disease, and high blood pressure if not addressed early.

Mental Health. Fifty-nine percent of respondents experienced stress during the COVID-19 pandemic (Figure 5). Stress can cause emotional instability resulting from job loss, changes in learning and working methods, physical changes, and unsecured personal safety. Furthermore, most students, employees, entrepreneurs, and academicians focus less on their mental health. Society’s stigma regarding mental health also prevents individuals from getting proper help immediately.

Changes in Lifestyle

Lifestyle. The implementation of the MCO that restricted the movement of Malaysians caused them to adapt to a new norm. Most respondents (78%) only came out of the house 1–2 times a week (Figure 6). Aside from the fear of the virus, MCO influenced the frequency of people leaving the house. They only leave the house for important reasons, such as purchasing household goods or resolving important issues. Shopping habits also change because people tend to buy in bulk to reduce the frequency of shopping physically. Online learning also eliminates the need for students to attend

school, resulting in a reduction in the frequency they leave the house.

When it comes to shopping, 77% of respondents prefer to shop online (Figure 7). Online shopping can be done at home, avoiding crowds and the risk of infection while shopping. Aside from the shopping method, most respondents (85%) have changed their shopping habits and shop with greater caution, as they need to save more than before (Figure 8).

Aside from spending habits, the length of time spent using electronic devices such as mobile phones, computers, tablets, and others was also examined. Changes in time spent using electronic devices are associated with changes in work and learning methods. For example, since the beginning of the COVID-19 pandemic, the online teaching and learning process has been fully implemented in all levels of education, from primary schools to higher learning institutions, to ensure the sustainability of teaching and learning sessions. Furthermore, some industries work from home and convert all documents to digital copies that can be accessed via electronic devices.

Thirty percent of respondents who use electronic equipment at work spent more than 10 hours daily, 20% spent 5 to 10 hours online, and most (41%) use electronic devices for less than 3 hours (Figure 9). However, the findings showed a significant improvement compared to before the MCO, as there are 50% of respondents used electronic devices for more than 5 hours. This data only focused on the usage during

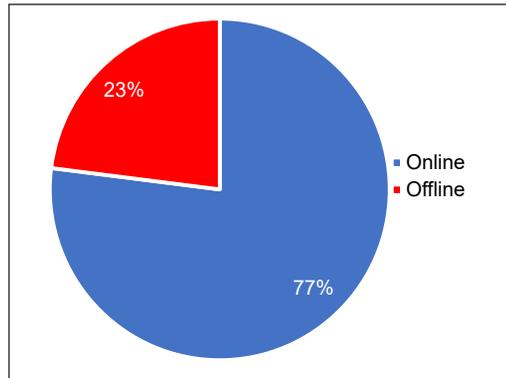


Figure 7. Respondents' choices on how to shop during the pandemic season

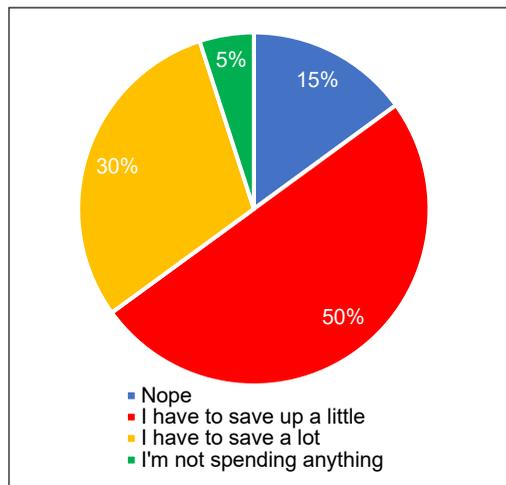


Figure 8. Changes in spending habits during the COVID-19 pandemic season

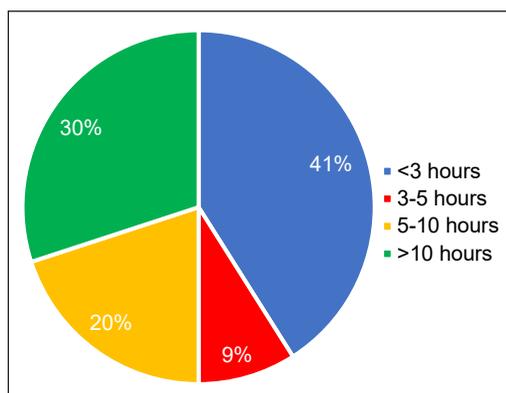


Figure 9. The use of electronic devices for work during the pandemic

working or studying and did not account for leisure. The use of electronic devices has the potential to harm the eyes in the long run.

Although the pandemic causes many shifts in working and learning methods online, which have drawbacks, it also has advantages. Some traders who cannot trade in the night market or shop can conduct their business online via social media platforms such as Facebook, Instagram, WhatsApp, and Twitter. It helps them to expand their market and, in turn, reduces the risk of exposure in public places. People’s shopping habits in supermarkets, wet markets, and other store locations can also be improved because of increased exposure to e-commerce during the year.

Working Methods. According to a report from the Employee Insurance System (SIP) of the Social Security Organisation (SOCSSO), there was a 42% increase in job losses in Malaysia for the first quarter of 2020, during the MCO period (Bernama, 2020b). Among the affected service sectors are transportation, tourism, food and beverage, and other small and medium

enterprises (SMEs) that require face-to-face activities. Many businesses could not survive more than two months and had to be closed due to losses despite receiving various assistance from the government. Eighty percent of the respondents were unemployed, and only 16% had jobs (Figure 2). Most respondents were likely university students or had lost their job due to this pandemic. Simultaneously, to combat the spread of COVID-19, the concept of working from home has been implemented across the globe. According to the findings, 42% of those who worked said their working hours had increased since the COVID-19 pandemic began. At the same time, 58% of respondents did not experience an increase in working time due to factors such as not having a job or being a university student (Figure 10). The research was also conducted to see if working or learning online can help improve the efficiency of individuals in their field. Based on the data received, 79% of respondents agreed that changes in the new norms of working from home and learning online do not help improve efficiency (Figure 11).

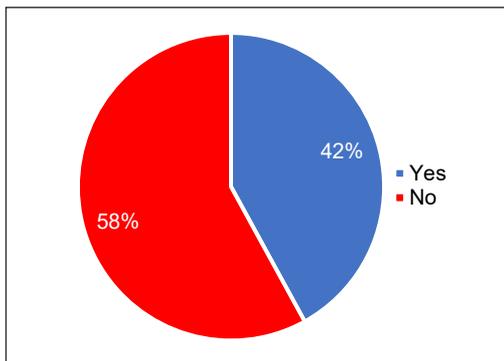


Figure 10. The increase in respondents’ working time during the pandemic compared to before pandemic

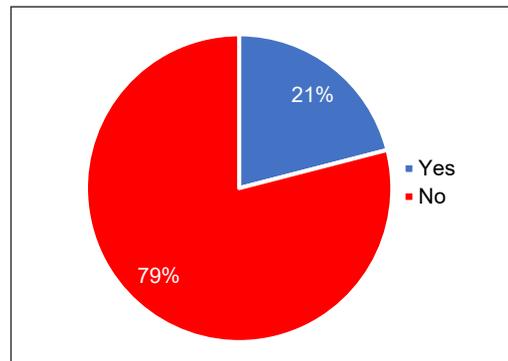


Figure 11. Increase in efficiency in working or learning from home

Among the factors mentioned are disruption from the surroundings, internet access issues, and others. Furthermore, the shift in norms has caused stress due to the lack of communication. Following the pandemic that affected approximately 1.5 billion students and families worldwide, governments in various countries have chosen distance learning methods to overcome the challenges by strengthening teacher support and reassessing assessment and examination policies. Among the methods for students to continue their education are online platforms, television, radio, and the provision of educational materials to be brought home. However, according to UNESCO and the International Telecommunication Union (ITU), 40% of students involved in school closures do not have internet access as of last May 2019, allowing many students to drop out if the school continues to close.

Seventy-five percent of respondents agreed that the main factor that affected Open and Distance Learning (ODL) was the lack of focus in online learning (Figure

12). Unconducive home environment, unattractive learning materials, internet access problems, failure of technology equipment used, inappropriate scheduling, and a lack of parental and pupil support in subjects are among the causes that affected the focus of learning. Most respondents (70%) believed internet instability was the most significant factor influencing learning. Most respondents who are students and studying at the university frequently faced internet instability during learning sessions and tests, indirectly hindering them from getting current information and notices on time.

Aside from a lack of focus on learning and internet access issues, 57% of respondents believed that changes in school sessions and tests also impact education and learning quality. The tight scheduling of the school session has replaced the face-to-face final examination with tests and assignments. Although tests and paperwork can be a medium for assessment, they also become a burden and pressure on students who have to deal with all subjects in a short period.

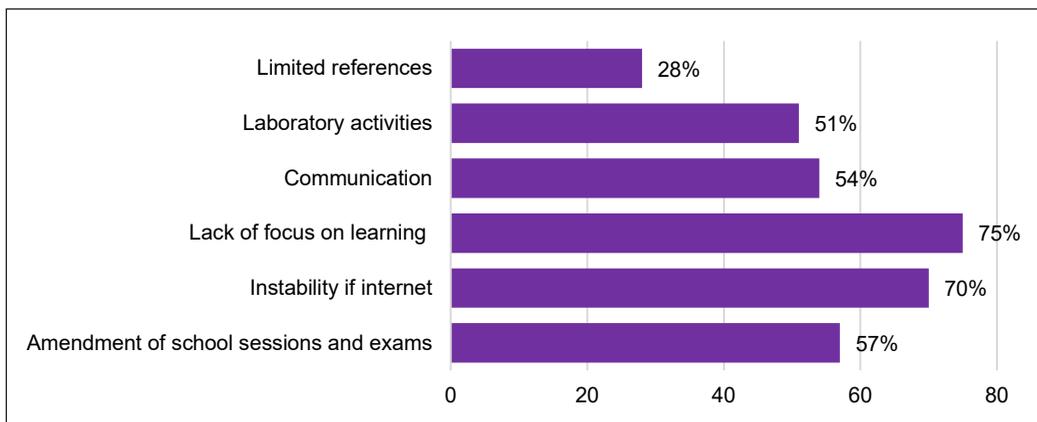


Figure 12. The factors that affected the Open and Distance (ODL) process during the pandemic season

The impact of the affected ODL process can be seen in Figure 13, where the majority believed that understanding the course has the highest impact (40%). Due to a lack of physical training programs and skill enhancement processes, most students are unable to master their soft skills, social skills, and technical skills. In addition, because of the change in the ODL method, the final examination system, which was previously held physically in the examination hall, had to be changed to online, which raised concerns about students' honesty in answering the examination. Other aspects, such as the accreditation documentation process, also affect the development of students.

The new ODL method had the second greatest impact on learning quality (32%). It includes experiments and learning materials that must be modified and improved to be delivered via an online system. Teachers and students are also hampered by the quality

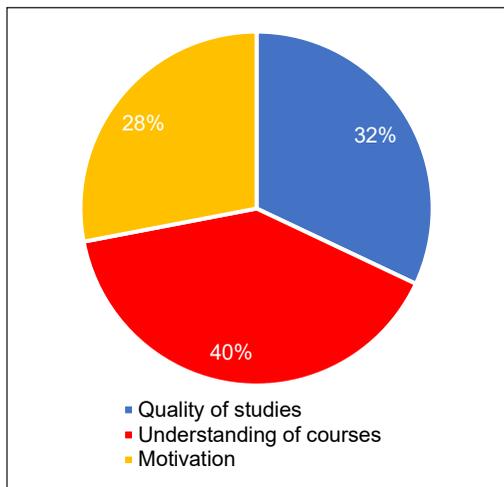


Figure 13. Impacts of the ODL methods on primary school students, secondary school students, and university students during the pandemic season

and method of delivery because teachers need to familiarize themselves with online delivery system techniques for teaching and learning activities. The last effect was in terms of student motivation (28%). Most students focus on academics and can work independently to complete their assigned tasks. However, motivation will be reduced at home due to a less focused and active learning environment.

Changes in Economic

Individual Economics. The spread of COVID-19 had an impact on the community's economy as well. Many Malaysians have lost their jobs and sources of income because of the pandemic. The MCO, which was implemented for six months, has also restricted the various activities of the community and business. Ninety-three percent of respondents maintain food supply throughout the MCO (Figure 14). However, only 7% of respondents reported experiencing food shortages. It could be due to the respondent's location, which makes obtaining food supplies difficult.

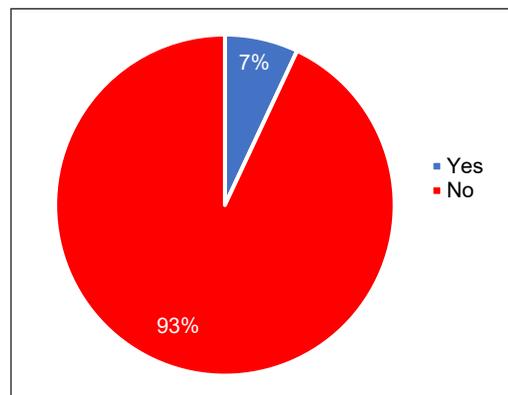


Figure 14. Respondent with a food supply that was cut off during the Movement Control Order (MCO)

Figures 15 and 16 depict respondents' employment status during the COVID-19 pandemic and the community's current salary-cutting situation. Most respondents, 87%, still have full-time jobs (Figure 15). In addition, most respondents, 91%, did not face a salary cut during the COVID-19 pandemic (Figure 16).

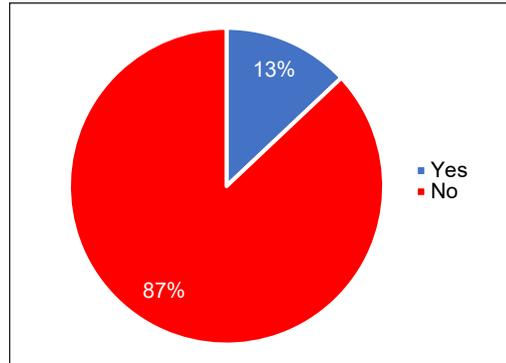


Figure 15. Work provisions during the COVID-19 pandemic

State Economy. Forty-three percent of respondents reported that during the pandemic season, most shops in their area had to close (Figure 17). The remaining 57% of respondents reported that shops in their area were still open for business. The questionnaire is intended for the sectors near the respondent's location. Due to the decrease in recreational spending and movement control among the community, most manufacturing and service sectors, such as accommodation, arts, entertainment, and recreation, and other services, such as beauty centers and salons, had to close. Among the sectors that are less affected due to the pandemic are the food and health sectors. Figure 18 depicts the responses to the questionnaire on the impact of COVID-19 on economic change in Malaysian society. It was discovered that each respondent viewed the economic changes brought about by COVID-19 differently. Most respondents (51%) strongly agreed that the bankruptcy rate increased during the pandemic. It is due to the reduced investment activities by the community because of the extremely low-profit rate. Furthermore, the market index situation showed an increase in the number of bankrupts.

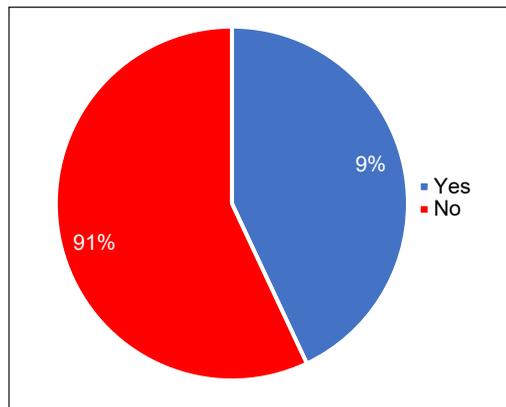


Figure 16. The situation of salary cuts during the COVID-19 pandemic

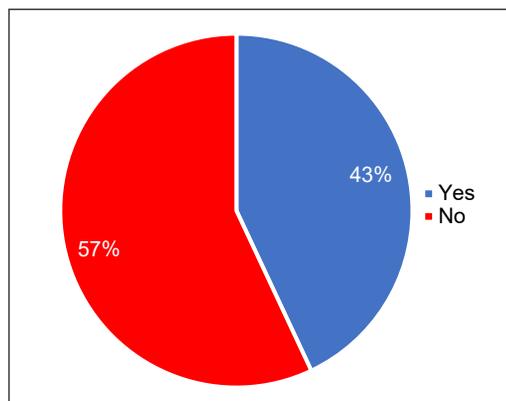


Figure 17. Situation of closure of business premises in residential areas of respondents during the COVID-19 pandemic

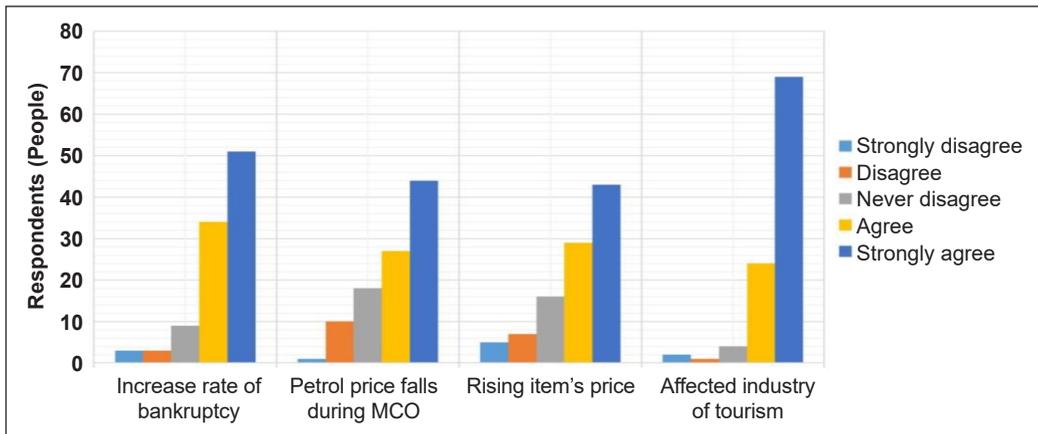


Figure 18. Impact of COVID-19 on the country's economy

Also stated in the figure, 44% of respondents agreed with the statement that petrol prices fell during the MCO. However, most respondents believed that the petrol market was oversaturated due to the reduction in demand for petrol during the MCO. One of the reasons for the drop is the reduction in human movement during the pandemic season.

Subsequently, 43% of respondents strongly agreed with the statement that a price increase occurred during the pandemic season. During the pandemic, there is a greater demand for goods and a limited supply. Rising prices for these goods resulted from trade activities within and outside Malaysia that were halted during the COVID-19 pandemic. According to the survey, 69% of respondents strongly agreed that the affected tourism industry could impact the Malaysian economy. Most Malaysians involved in the tourism industry were impacted by the COVID-19 pandemic, which resulted in the cancellation of tourism activities, causing them to lose their jobs and sources of income.

Strength

This study describes the impact of the COVID-19 pandemic in a detailed and elaborated manner, consisting of all three major socio-economic sectors, namely health, lifestyle, and economy. This study's strength lies in the literature review on all three major sectors and in the survey conducted using the easiest medium widely available to the public, the Google Form. Google Form is a user-friendly platform, easily accessible for the respondents to understand and fill in the questionnaire, and a straightforward tool for the authors to create the questions. At the end of the survey, responses from various backgrounds (studying or working) were successfully captured to reflect the true impact of the COVID-19 pandemic.

In addition, several governmental policies and campaigns are already in line with this study. First, a new socio-economic package named PRIHATIN Rakyat Economic Stimulus Package worth RM 250 billion was announced as early as March 2020 as part of continuous efforts

to reduce the effects of COVID-19. The package includes the following beneficiaries: healthcare, front liners, civil servants, students at higher learning institutions, business owners, telecommunication companies, insurance policyholders, and small and medium-sized enterprises. It has been designed to safeguard the people's welfare, support businesses, and strengthen the economy (Md Shah, 2020).

To cope with the adverse effects of the COVID-19 pandemic, the government has imposed social restrictions such as international travel control (IT), restrictions on gatherings (ROG), stay-at-home requirements (SAHR), and workplace closures (WPC). The WPC policy tends to reduce economic activity significantly as it stops the agents of the economy from engaging in business and also makes the investors pessimistic about the stock market. However, the SAHR policy is positively and significantly related to economic activity and stock prices. As reported in previous sections, people appeared to have changed their shopping habits during the MCO, as their movements were restricted to their homes. Now they prefer online shopping as it has become convenient to deliver purchases straight to the doorstep. As a result, logistics and shipment activities are growing, even though people are restricted at home (Keh & Tan, 2021).

This study shows its relevance at the international level as the International Labor Organization (ILO) performed a policy review for protecting and supporting enterprises (Lim, 2020). There are four pillars: The ILO Policy brief on COVID-19

Pillar 1 is concerned with stimulating the economy and employment; The ILO Policy Brief on COVID-19 Pillar 2 will look into the supporting enterprises, jobs, and incomes; ILO Policy Brief on COVID-19 Pillar 3 concerned about protecting workers in the workplace; and finally, the ILO Policy Brief on COVID-19 Pillar 4 will pay attention to the need for social dialogue in addressing the COVID-19 crisis.

Limitation

Nevertheless, due to the time and resources constraint (caused by the enforcement of the MCO), this study has only managed to find 100 respondents to fill out the survey. More data is needed to strengthen the finding of the true impact of the COVID-19 pandemic. The survey can be expanded to include more respondents from the age group above 30 years old as they are the highest income contributor to the country. Their response can be valuable, for example, from the perspective of business owners or older people who are more affected by limited physical activities. This study can also be further enhanced by analyzing the ethnic background of the respondents. Different ethnicities have different genetics and way of life. By studying these differences, more data can be gathered to highlight one ethnicity's positive aspects that can benefit others.

Recommendation

The citizen must keep alert and always be reminded about the hazards of COVID-19. In addition, they need to accept the reality

that the virus is here to stay. Thus, citizens must adapt to the new norms by adjusting their lifestyles and mindsets. One good effort is that if one has an online business related to courier and food delivery, it will thrive during lockdowns. In order to excel, digital knowledge is, therefore, required. Finally, the government and non-government organizations (NGOs) should periodically organize advisory services such as physical health care, mental health care, good economic maintenance, and good nutrition care. Excessive campaigns through social media should have a good impact.

Based on Mat Dawi et al. (2021), theoretical and practical implications can be applied to public health during the COVID-19 pandemic. In terms of theory, the impacts of the perception of e-government information and services must be highlighted in social media and other online platforms for pandemic outbreak management. Thus, the effect of attitude toward preventive behavior on the relationship between e-government information and services can be observed. In terms of practical implications, the study has encouraged a disease management team that can promote public health awareness during the COVID-19 pandemic. Furthermore, they have summarized that Malaysia is a collectivistic society where an individual's decision to perform a specific behavior is influenced by people that are important to him/her. Thus, the disease management team may enhance the sense of community in public health communication.

CONCLUSION

This research investigates the impact of COVID-19 on Malaysians' lifestyles. Hundred people were chosen at random to complete the questionnaires. The study's findings indicated that COVID-19 affects society and the country, including health, lifestyle changes, and the economy. Although each of these effects is discussed separately, they are all linked. For example, in terms of health, COVID-19 can negatively impact the community's physical and mental health. Based on the study's results, weight change and deterioration in mental health can be associated with changes in the lifestyle of individuals during the COVID-19 pandemic, where most of the time must be spent at home, thus limiting recreational and social activities. In addition, difficulty adapting to changes in working and learning methods also contributes to mental and physical health deterioration.

Lifestyle changes due to COVID-19 also negatively affect students and employees. Among the impacts on students is the quality of lessons and understanding of lessons that deteriorated because of Open and Distance Learning (ODL). Among the factors that led to this situation are internet disruption and students' inability to focus when studying online. The lack of communication and practical activities also contributed to students' difficulty adapting to learning from home. Economically, COVID-19 also has a negative impact on the individual economy, society, and the country. Changes in terms of public expenditure have also changed, where people are spending less

and saving more. The factors contributing to this may be the financial constraints of society due to the lack or loss of a source of income. In addition, the closure of various nonessential economic sectors, such as tourism, caused by the imposed Movement Control Order (MCO), also affected the economic downturn of the society and the country.

Overall, the study achieved its objective of analyzing and identifying the effects of the COVID-19 pandemic on Malaysians in terms of health, lifestyle changes, and economic and social changes in society in Malaysia. However, more in-depth studies and wider scope in the future are encouraged so that more detailed results can be obtained concerning the impact of COVID-19 on the lifestyle of Malaysians.

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Supporting the Elderly: The “Kenang Budi” Concept Within the Malay Society in Malaysia

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ABSTRACT

The rising number of elderlies has brought several issues forward, particularly pertaining to care and support. Children are expected to be the primary source of support for the elderly and provide them with physical, social, and financial support to show that they are indebted to their parents. This concept is called “kenang budi.” The concept is prevalent in the Malay Muslim culture in Malaysia. This study examines the types of support given by the children in the practice of the “kenang budi” concept by analyzing the data gathered from 327 elderly in Pahang, Malaysia, using the Statistical Package for the Social Sciences (SPSS) software. The results demonstrate that the concept is practiced by several acts of service, such as providing health support and care, aiding them financially, preparing daily necessities, maintaining good contact, and taking them to places such as mosques and festival shows. Since children’s support is pertinent for the well-being of the elderly, the concept of “kenang budi” is appropriate in ensuring the children’s continuous support and providing a chance for the children to care for and be responsible for the elderly. This article highlights the element of “kenang budi” (literally, in English, grateful) in the Malay community, especially in the context of doing a good or responsible attitude towards elderly parents, similar to the concept of filial piety practiced in Chinese society in Southeast Asia.

Keywords: Elderly, “kenang budi,” Malay society, Malaysia, support

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INTRODUCTION

The concept of “kenang budi” within the Malay community in Malaysia refers to the idea that children are supposed to appreciate their parents and are responsible

for caring for and supporting them (Wan Ahmad & Ismail, 2014a, 2014b, 2014c). The three main races in Malaysia— Malay, Chinese, and Indian—agree that children are responsible for taking care of their parents, which has been cultivated in the children’s minds when they are still young. However, Malay Muslims believe that children are not to burden others with the responsibilities of caring for their parents (Phillips, 1992) as the religion mandates that children should ensure their parents’ welfare and care (Wan Ahmad, 1999; Wan Ahmad & Ismail, 2014a, 2014b). The mandate is stated in the Holy Quran that the children are to do good and speak only kind words to their parents:

Your Lord has decreed that you should worship none but Him and do good too. If anyone of them or both reach old age, do not say to them: “uff” (a word or expression of anger or contempt), and do not scold them, and address them with respectful words. (*The Qur’an*, 1997, Al- Isra’, 17: 23)

In addition, children are also instructed to care for their parents because of the sacrifice of mothers who conceived, breastfed, and cared for the children when they were young (Hassan, 2015).

We commanded man (to do good) in respect of his parents. His mother carried him (in her womb) despite weakness, and his weaning is in two years. (We said to men), “Be grateful to Me and your parents.

To Me is the ultimate return. (*The Qur’an*, 1997, Luqman, 31: 14)

Apart from that, there is a warning from the Prophet PBUH about children who neglect caring for their elderly parents as a disgrace. In the Irsyad Al-Hadith article of the 356th series from the Office of the Mufti dated March 20, 2019, it was mentioned, “Furthermore, a person who was with or devoted to both his parents is a very lucky and fortunate person” (para 5). The Prophet PBUH once stated that a condemned person is a person who had time with his parents, but the opportunity did not allow him to enter heaven (Mufti of Federal Territory’s Office, 2019). Furthermore, a person who was with or devoted to both his parents is fortunate. The Prophet PBUH once stated that a condemned person is a person who had time with his parents, but the opportunity did not allow him to enter heaven. From Abu Hurairah R.A., the Prophet PBUH said:

“Shame, shame, shame.” He was asked: “Who (do you mean) O Messenger of Allah?” The Prophet PBUH replied: “Whoever has his parents when they are old, one or both of them but does not (make it the reason) will enter heaven.” (Narrated by Muslim [2551], as cited by Mufti of Federal Territory’s Office, 2019, para. 6).

Concept of “Kenang Budi” to their Parents in the Malay Society

Following the observation, this study discusses the gratitude the children show

by providing physical, financial, and social support and care to their parents. The “kenang budi” concept is appropriate in portraying children’s kind behavior and practices towards their parents, such as making various efforts and good deeds to them. In the authors’ opinion, “kenang budi” (grateful) is more suitable for explaining children’s good deeds to their parents. There are various ways children show good deeds to their parents. Among others are contacting, visiting, financing, helping them with daily chores, taking them to health care services, and many more. In the context of the children’s responsibility towards the elderly parents, the term benevolent is appropriate. Returns of favor are balanced or reciprocal, but gratitude is not necessarily balanced.

In the context of responsibility, children’s responsibility to elderly parents is emphasized in the term “kenang budi” (remember their good deed). Adult children are expected to remember their parents’ “budi” (good deed), which includes their sacrifice and kindness in bringing them up from a newborn to an adult. The Kenang Budi concept includes a feeling of gratitude and respect to the parents who raise them with love, care, and sacrifice. In this paper, the term “kenang budi” is more appropriate than “balas budi” (which means give something back, reciprocity). In this context, the “balas budi” concept is difficult to achieve because it is almost impossible for the children to give their parents back as much as the parents’ scarification in bringing them up.

In the authors’ view, the term “kenang budi” is more appropriate to describe children’s attitudes toward remembering and appreciating the good deeds of their parents. They remember their parents’ kindness by helping them with daily chores, visiting, contacting, giving money for expenses, sending and accompanying the parents to get health care, and many more. In the context of a child’s responsibility to an elderly parent, the term graciousness is more appropriate than reciprocity. Reciprocity has the elements of balanced appreciation or exchange between the two parties (parents and children), but in reality, it is not necessarily balanced. A handful of parents are happier and richer than their children, and it is acknowledged that the services or sacrifices of parents are not always “paid back” at the same amount or level. In Malay society, the sacrifices and services of parents are often mentioned in verses, poems, and parables. For example, Pantun Kasih Sayang Ibu Bapa (<http://pantunmelayu.com/pantun-kasih-sayang-ibu-bapa>)

*Tanam tebu tidaklah payah,
Bila tumbuh pastinya suka;
Ku kasihkan ibu, ku sayang ayah,
Tiada terbalas jasa mereka.*

Translation:

Planting sugarcane is not difficult,
When it grows, we definitely like it;
I love my mother, I love my father,
There is no limit to their services.

*Nasi lemak dalam pinggan,
Terliur sudah tidak tertahan;
Sayang emak tiada tandingan,*

Pengorbanan ayah tiada ukuran.

Translation:

Nasi lemak on the plate,
Drooling is unbearable;
Mother's love is incomparable,
Father's sacrifice is immeasurable.

The above pantuns clearly show and remind us that the children should repay the parents' kindness and be grateful for their sacrifices to their children since the children were young.

Literature Review

Elderly Muslims in Brunei tend to live with their children as it is believed that the children are responsible for their parents when the latter is old (Cleary & Maricar, 2000). This notion is echoed by the Chinese community, which believes that family members, especially children, are responsible for caring for the elderly. This concept is an effective support system for the elderly (Jernigan & Jernigan, 1992; Makhtar & Samsudin, 2020).

Filial piety refers to people in China, Japan, and Korea showing responsibility and devotion to their parents, in addition to feelings of respect and the willingness to sacrifice for their parents (Zhang et al., 2019). This concept is a traditional value in Chinese society (Bedford & Kuang, 2019; Wenyi, 2019)—the belief that children are obligated to support (Du & Guo, 2000) and respect the elders are taught to the children from an early age (Jernigan & Jernigan, 1992). Three basic components of filial piety: caring when sick, honoring their

wishes, and respecting them (Mehta & Ko, 2004). Among Chinese Singaporeans, filial piety is fundamental to fostering love and mutual respect for the elderly (Mehta & Ko, 2004).

This concept is also applied in other places—studies in Sri Lanka demonstrate that adult children are the primary carers for the elderly, especially those with poor health (Ostbye et al., 2010). In Brazil, it is observed that the elderly are more likely to live with adult daughters than adult sons, but the elderly in the Philippines are more likely to live with their unmarried sons than daughters (Domingo & Casterline, 1992). In Vietnam, the elderly prefer to live with their married eldest sons, but those in Thailand prefer their married adult daughters (Teerawichitchainan et al., 2015). In Malaysia, the elderly live with their adult children (DaVanzo & Angelique, 1994), but the primary carers are the elderly's adult daughters (Alavi & Sail, 2010). Furthermore, older people in Taiwan prefer to live with their adult children as the latter are deemed more responsible and capable of taking care of them. In Japan, the daughter-in-law is responsible for caring for her parents-in-law (Ogawa et al., 2003). However, due to the increase in women's socioeconomic level, the care pattern for the elderly has changed. Higher socioeconomic levels achieved by women led to many of them seeking paid work outside the home; thus, their absence from the home caused the male children to take the responsibility of caring for their elderly parents ("Men caring for aging," 2014). The observations present

a pattern—the responsibility of taking care of the elderly falls on the family members, especially the children, and the practice is prevalent in Asia (Loichinger & Pothisiri, 2018).

METHODOLOGY

Selection of Study Area and Sampling

This study was conducted in Jerantut District, the largest district in the state of Pahang (Figure 1), with an area of

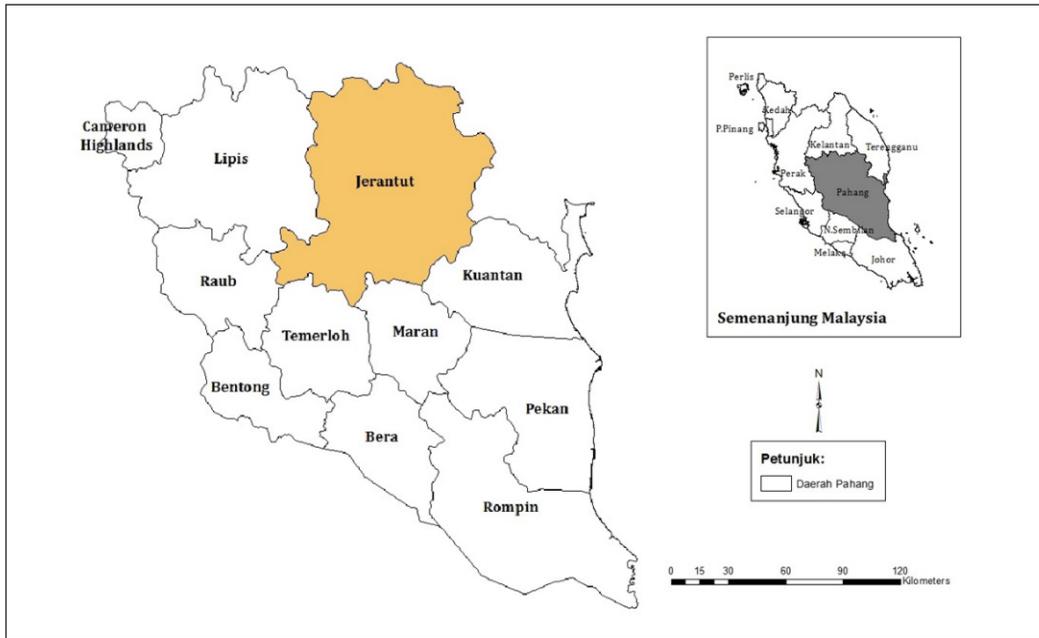


Figure 1. Map of the study area; Jerantut District, Pahang

Table 1
Information on the area and population in Jerantut District, Pahang

Mukims	Area (hectares)	Number of populations	The number of the elderly	Number of villages
Ulu Cheka	32,579.36	8,565	895	69
Pedah	24,006	10,886	2428	33
Teh	8,846.49	7,228	915	21
Burau	9,672.04	*	237	*
Kelola	2,802.10	1,351	29	7
Tebing Tinggi	11,781.27	2,051	353	10
Pulau Tawar	78,513.68	20,513	2375	22
Kuala Tembeling	19,047.39	2,566	388	16
Tembeling Tengah	123,670.58	9,958	597	26
Hulu Tembeling	409,840.45	2,217	255	27
Total	720,760.36	65,335	8472	231

*Not obtained

Source: Department of Statistics Malaysia (2011)

720,760.36 hectares, ten sub-districts, and 231 villages. It has a population of 65,335, with 8,472 aged 60 and above, as of 2010 (Table 1). For this study, a total of 327 respondents aged 60 years and above, living in the district, and of the Malay race were selected using a purposive sampling method to be included in this quantitative approach study. A questionnaire was used as the instrument of research.

ANALYSIS AND DISCUSSION

Demographic Profile of Respondents

The respondents comprised 327 elderly, 147 males and 180 females, living in Jerantut District, Pahang (Table 2). The respondents were between 60 and 125 years old, with the mean age being 70.6 years. Adapting Mohd Zain and Shaffie’s (2005) study, the respondents were divided into four age groups: early-stage elderly (60–69 years), intermediate-stage elderly (70–79 years), later-stage seniors (80–89 years), and very late-stage seniors (above 90 years). Most respondents (158 elderly, 43.8 percent)

belonged to the early-stage group, followed by the intermediate stage (130 elderly, 39.8 percent). More than half of the respondents (64.8 percent) were married, with 83.7 percent of the total male respondents still married. One male respondent was not married, while 15 percent of the male respondents were widowers. Meanwhile, 49.4 percent of the female respondents were married, and another 50.6 percent were widowed.

Children as the Primary Source of Support for the Elderly

The issues of care and support for the elderly are actively discussed. Many researchers argue that family members are responsible for caring for the elderly, and planning their life around providing support should be the family member’s responsibility. According to the United Nations (Department of Economic and Social Affairs, 2019), the increasing rate of urbanization, industrialization, and migration decreases the awareness of the need to care for the elderly. Life planning

Table 2
Demographic characteristics of respondents by gender and sub-districts

Demographic characteristics	Item	Gender		Total
		Men	Women	
1. Age group	60–69 years	61 (41.5%)	97 (53.9%)	158 (43.8%)
	70–79 years	67 (45.6%)	63 (35.0%)	130 (39.8%)
	80–89 years	16 (10.9%)	15 (8.3%)	31 (9.5%)
	90 years and above	3 (2.0%)	5 (2.8%)	8 (2.4%)
	Total	147 (100%)	180 (100%)	327 (100%)
2. Marital status	Not married	1 (0.7%)	0 (0%)	1 (0.3%)
	Married	123 (83.7%)	89 (49.4%)	212 (64.8%)
	Widowed	23 (15.6%)	91 (50.6%)	89 (27.2%)
	Total	147 (100%)	180 (100%)	327 (100%)

that involves taking care of the elderly is important. However, it is highly dependent on the children and the elderly economic status and their level of health and physical ability.

Living with elderly family members demonstrates familial support, especially from the children (Fan et al., 2018; Wan Ahmad & Ismail, 2014a). If the parents are living with their children, the arrangement should benefit both parties to make it easier for the children to provide social, financial, and physical support. In addition, it can help the elderly to weather the changes in family structure, such as the death of a spouse, divorce, or remarriage.

Three living settings were identified by observing the living arrangements of the Malay elderly in Jerantut, Pahang: living alone, living with a partner, and living with family members. Manning and Brown (2011) provided another classification: living with non-family members or in welfare institutions. This study did not include this type of elderly’s living arrangement in this study.

Most respondents (61.7 percent, 202 respondents) were living with family members, followed by living with a spouse (24.8 percent, 81 respondents), and living alone (13.5 percent, 44 respondents) (Table

3). It can be seen that 61.7 percent lived in a “broad family” setting, while the rest—living alone or with a spouse—were living in a “nuclear family” setting. The results demonstrate that the elderly are getting strong familial support, especially from their children.

The study found that 13.5 percent (44 respondents) of the 327 respondents live alone and are called a single-person households. Respondents had to live alone after the death of their respective spouses. Although the respondents studied live alone, most of them get support from their families, such as children, who always take care of their welfare, whether near or far away. It is in line with other studies in rural areas in Kelantan, which showed that elderly parents usually receive support from their families despite living alone or with their families (Wan Ahmad et al., 2012). However, this pattern contrasts the elderly living in European countries, who are forced to live alone without family support, even though they are incapacitated and suffer from illness till the end of their lives (European Union, 2019; Rolls et al., 2010). This study found that even though the children do not live with their elderly parents, they usually live close to or next to their parent’s house, either on the same land or in the same village

Table 3
Living arrangement patterns based on Manning and Brown (2011)

Living arrangements patterns	Numbers	Percentage
1. Living alone	44	13.5
2. Living with a spouse	81	24.8
3. Living with family members	202	61.7
Total	327	100%

area. This situation allows the children to visit their parents daily. Children living separately but close to their parents' homes are a common phenomenon for those living in rural areas. This situation is due to the cheaper cost of land and the cost of building houses in rural areas compared to living in urban areas.

Children Provide Financial Support

Old age comes with a decline in health, causing less employment participation among the elderly (Schmillen et al., 2020) as they are no longer fit to work, especially in jobs that require strength and physical ability (Department of Economic and Social Affairs, 2019). The elderly who cannot work due to health problems will need support from their children or the government (Zimmer & Kwong, 2003). As the elderly age, their income becomes little to none (Ling, 2009). They need financial support from their children for daily necessities and utility bills.

The results demonstrate that 50.5 percent of the respondents received financial support from their children (Table 4). It was also observed that the respondents

were not employed due to health problems or because their children insisted they do so. According to Andrews and Hennink (1992), children are the primary source of financial support for the elderly. The results show that the children support the parents' expenses, regardless of whether the parents and the children live together or separately. Furthermore, some of the female respondents were no longer working to care for their sick husbands or disabled children and relied on their other children's financial support to survive.

According to Wan Ahmad and Ismail (2014a), the support received by the elderly from their children demonstrated a sense of appreciation and gratitude for their parents, which is prevalent in the Malay Muslim community. It is also similar to the concept of filial piety in the Chinese community; it reflects a sense of responsibility and devotion to their parents (Ananta & Arifin, 2009; Martin, 1990).

Children's Bringing and Accompanying the Elderly to the Health Centre

Another important discussion in the care of the elderly is the arrangement of taking

Table 4
Financial resources of the respondents

Financial resource support for daily spending	Gender		Total
	Men	Women	
1. Self-support (still working)	52 (35.4%)	33 (18.3%)	85 (26.0%)
2. Support from children	53 (36.1%)	112 (62.2%)	165 (50.5%)
3. Pension	26 (17.7%)	12 (6.7%)	38 (11.6%)
4. Financial assistance Department of social welfare	9 (6.1%)	17 (9.4%)	26 (7.9%)
5. Others	7 (4.8%)	6 (3.3%)	13 (4.0%)
Total	147 (100%)	180 (100%)	327 (100%)

Note. Some respondents received multiple financial support, but only the primary source was taken into account.

them to health centers. In this study, 142 respondents were medically ill, but only 124 were under treatment with frequent appointments with health professionals. As shown in Table 5, 50.1 percent (62 respondents) were sent or accompanied by their children to the health centers. Respondents who could drive went to the hospital or clinic alone, while those who were sick or unable to drive relied on their spouses, children, grandchildren, or close neighbors to take them to the health centers. In addition, the children also purchase the necessary health equipment for the elderly, such as breathing aids, wheelchairs, blood sugar measuring devices, and high blood pressure measuring devices.

The results demonstrate that culture and family support influence the elderly’s living arrangements. The elderly know the benefits and importance of living with their children. It is observed that 86.5 percent of the respondents aged 60 and above are living with their family members, which is typical of rural communities. In addition, the respondents also receive financial,

physical, and social support from their family members, especially their children (Figure 2).

Social support includes frequent visits, phone communications, aiding sick elderly, and accompanying the elderly to gatherings to prevent them from feeling lonely and avoid the empty nest syndrome. Meanwhile, financial support refers to the financial assistance and necessities provided to the parents, while physical support pertains to providing comfortable living arrangements for the elderly.

It is more beneficial for older people to live with their family rather than alone. For example, the mortality rate among the elderly in Japan who live with their children is lower than those who live alone (Takagi & Saito, 2020). Furthermore, it was observed that the respondents receive adequate support and attention from family members in all aspects of life, ensuring a fair and preserved quality of life. The elderly can also provide valuable contributions such as childcare (grandchildren), cleaning, and cooking. Overall, it is observed that

Table 5
Respondents’ companion in seeking treatment at a nearby hospital or clinic

Respondents’ companion	Total	Percentage
1. Alone	18	14.5
2. Spouse	20	16.1
3. Child(ren)	62	50.1
4. Son-in-law	6	4.8
5. Grandchild(ren)	5	4.0
6. Relatives	1	0.8
7. Neighbour	12	9.7
Total	124*	100%

*The total did not include 18 respondents who did not seek any treatment at a hospital or clinic.

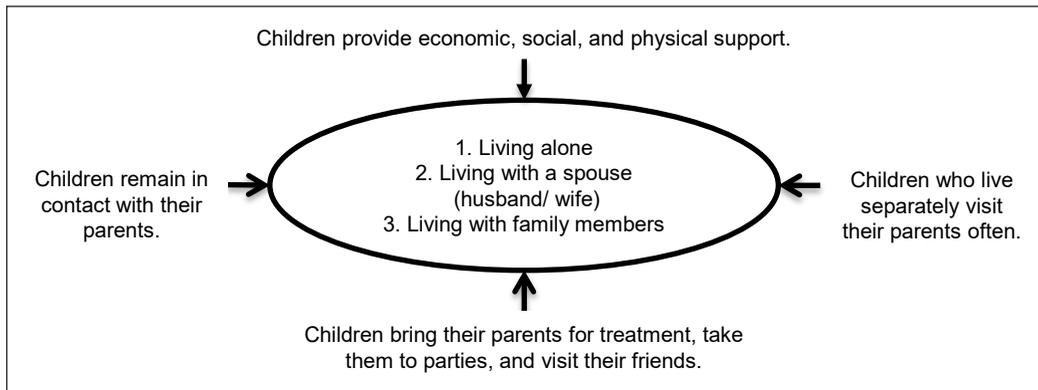


Figure 2. The support received by the respondents according to the pattern of living arrangement

the elderly who live with family members and relatives are well-supported and are experiencing a good quality of life.

Pertaining to this study, the support shown by the children towards their parents follows the Islamic teaching for children to be devoted and responsible to their parents. Furthermore, the Malay Muslim community emphasizes the concept of “absolute recall,” which refers to the obligations of children to provide support and care for their parents. Those who do not fulfill these obligations are considered “ungrateful” or “rebellious” (Wan Ahmad & Ismail, 2014a, 2014b, 2014c). In addition, Muslims believe that their sacrifices in caring for their elderly parents will be compensated by the Almighty God, which can explain the support received by the respondents in this study.

CONCLUSION

This study demonstrates that the children provide social, physical, and financial support for their parents, as the Holy Quran dictates. The notion of the obligation of children to take care of their parents has

been cultivated since childhood, and it is considered to repay the parents for taking care of the children while the latter is growing up. It shows the concept of “kenang budi,” in which the children care, respect, and devote themselves to their parents. It is deemed that a strong Islamic belief has influenced the support given by the children to their parents. Therefore, the support given by family members, especially among children, shows that they adhere firmly to Islamic teachings that emphasize the responsibility of caring for elderly parents, such as in aspects of welfare and well-being until the end of their lives. In the Qur’an, there is an order for children always to obey, do good and only speak good words to their parents.

This order has been instilled in children since they were small. Even the support shown by the children also shows their “kenang budi” attitude towards their elderly parents. When they were children, their parents took care of them, and now it is the children’s turn to remember and take care of their elderly parents. In addition, the support

given by the children to the respondents shows the existence of the concept of remembrance among their children. This concept of remembrance shows that children have a responsible attitude and respect and are willing to sacrifice for their parents. Therefore, the strong belief in Islam instilled in the children since childhood makes the respondents in the study area receive good support, attention, and care from family members, especially their children. This study also found the existence of an element of love and an element of remembrance practiced by children towards their respective parents. These elements make children provide support and care to their parents. Family members, especially the children, are the ultimate carers and supporters of the elderly parents.

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Compliance and Rhetoric in Sustainability Reports Published by A Malaysian Plantation Company

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ABSTRACT

Publishing sustainability reports has been mandatory in most countries, including Malaysia, where all publicly listed companies must disclose their sustainability activities since 2007, as gazetted in the Bursa Malaysia Listing Requirements, Ministry of Finance 2006. In addition, a Corporate Social Responsibility (CSR) framework was established to report corporate sustainability initiatives to include four focal areas: Environment, Workplace, Community, and Marketplace. Based on critical genre analysis, this article examines the discursive practices in disclosing these reports published by one plantation company by identifying the reports' generic structure and reporting style. The results show that the disclosure complies with the Listing Requirements, and the discourse employs modern rhetoric, a form of subtle persuasion supported with facts and figures. Therefore, it can be concluded that these sustainability reports are more than just paying lip service.

Keywords: Compliance, critical genre analysis, rhetoric, sustainability reports

INTRODUCTION

Business organizations disclose relevant corporate information in their annual reports as these reports act as an essential communication tool for improving public relations, credibility, and investor relations, as well as for financial disclosure (Hynes, 2009), for convincing stakeholders of the well-being of the company and to promote the image and reputation of the company (Karreman et al., 2014). This information includes financial and non-financial disclosure. In business, profit-making has undoubtedly been the bottom line, but there is a growing

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concern regarding the effects of business on the environment (Khavesh et al., 2012). Environmental issues resulting from business activities are not new topics having been discussed since the seventies and have been recognized by the accounting profession and the Securities & Exchange Commission as issues that need to be addressed urgently to which the Study Group on the Objectives of Financial Statements of 1973 proposed 'reporting on those activities of the enterprise affecting society which can be determined and described or measured and which are important to the role of the enterprise in its environment' as one of the basic objectives of corporate reporting (Wiseman, 1982). It began the publication of corporate social responsibility (CSR) reports, later known as Sustainability reports, Corporate Environmental Reports, Corporate Sustainability Reports, and Triple Bottom Line. This article will use sustainability reports (SRs).

According to the Global Reporting Initiative (GRI, n.d.), a sustainability report is published by a company or organization to disclose the economic, environmental, and social impacts caused by its everyday activities. The report also presents the organization's values and governance model and demonstrates the link between its strategy and commitment to a sustainable global economy. Sustainability reporting also helps organizations measure, understand, and communicate their economic, environmental, social, and governance performance, set goals, and manage change more effectively. Therefore,

it is the key platform for communicating sustainability performance and positive or negative impacts. Only 50% of the world's largest companies published these reports in 2005, but the number increased to 95% in 2013 (Higgins & Coffey, 2016) and is proliferating (Qian et al., 2021). The quality of reporting has also improved with more use of GRI indicators (Loh et al., 2016).

In Malaysia, the CSR Framework was introduced by Bursa Malaysia (Malaysian Bourse) in 2006. Since 2007, CSR reporting has been incorporated into the companies' corporate governance agenda (Saleh, 2009) and disclosed in the company's annual reports. The CSR or the sustainability section has become such a crucial element that it is the only individual section in the annual report that merits a specific award in the National Annual Corporate Report Award (NACRA) Malaysia. As stated in the NACRA 2014 brochure, the CSR Award is presented to companies displaying high standards of reporting on their commitment and efforts to operate in an economically, socially, and environmentally sustainable manner while balancing the interest of diverse stakeholders through transparent practices based on ethical values and respect for employees, communities, and the environment. The objectives were later improved, particularly in creating public awareness of the objective measures of an organization and their value creation over time, and a greater understanding of the financial performance and results from an organization has achieved. Awareness of sustainable development led to the

launching of another award, the Malaysian Sustainability Reporting Awards (MaSRA), in 2013 to incentivize and encourage best practices and good governance to build a robust and supportive local infrastructure for CSR and sustainability. In 2016, Sustainability Reporting Award replaced CSR Award.

This article stems from a bigger study on the discourse in sustainability reports (SRs). It aims to contribute to the literature with an in-depth perspective of this genre from the plantation industry. Literature on sustainability reports abounds naturally in the disciplines of Accounting and Business. Although studies have been conducted from the language and linguistic perspectives, none has included the perspectives proposed in this article, i.e., the compliance and the rhetoric in the disclosure of sustainability reports. Preparers of these reports include various personnel in a company, but corporate writers are expected to write the final reports. Thus, writers must identify the reports' crucial aspects, including the contents and language. This article takes writing sustainability reports in Malaysian companies in view while attempting to answer the following research questions: (1) Do the sustainability reports comply with the reporting framework established by the government? (2) Is there the presence of rhetoric in the disclosure of sustainability reports?

Appendix 9c, Item 29 of the Bursa Malaysia Listing Requirements stipulates that all public listed companies disclose

their sustainability engagements in the annual reports starting from 2007 (Bursa Malaysia, 2006). Although mandatory, the level of reporting may vary. To ensure the reporting standard, Bursa Malaysia has established a CSR framework for reporting corporate sustainability initiatives to include four focal areas: Environment, Workplace, Community, and Marketplace. Companies need to include the four focal areas in their reports as a requirement to be listed and to stay listed on the Board. In addition, companies must provide information on open and transparent business practices based on ethical values and respect for the community, employees, shareholders, and other stakeholders (Bursa Malaysia). However, thus far, only one study examined the extent of disclosure of the four focal areas in SRs, including the plantation industry (Darus et al., 2013) but from the accounting perspective. Therefore, the first objective of this article is to examine the extent of compliance in SRs with the reporting framework by observing the generic structure of these reports.

SRs have been criticized as “an undisguised advertisement” or “platforms for preaching [management’s] philosophies and [for] touting themselves and their companies” (Ingram & Frazier, 1983, p. 49), dubbing these reports as the proverbial ‘paying lip service.’ It is the reason for the second objective of this article: to investigate the rhetoric in the disclosure of sustainability reports.

Disclosure in Sustainability Reports

The sustainability section represents the non-financial disclosure in annual reports, and interest in the discourse began as early as the eighties in the accounting and management fields, focusing on the contents of the reports with the major themes, trends, and future research directions between 2001 and 2020 reviewed recently by Qian et al. (2021). Lai and Stacchezzini (2021) traced changes in the evolution of sustainability reporting and offered insights into organizational fields, starting from a period in which there was no space for sustainability to more recent periods in which sustainability gained increasing momentum beyond initial niches and culminating in more integrated forms of sustainability reporting. Unerman et al.'s (2018) insight into how sustainability reports provide information on externalities comprising social, environmental, and broader economic impacts arising from activities of an entity that are borne by others. Although provided in the same annual report, the externalities are reported in silo leading to the financial dimensions of many externalities being opaque in the sustainability reports and potentially miscommunicating the financial impacts of these externalities. Khavah et al. (2012) proved that companies with more CSR disclosure have higher revenue. Focusing mainly on the contents of the SRs may not contribute to the overall writing of these reports.

However, it is believed that by recently taking 'a linguistic turn' (Avelsson & Karreman, 2000), research in the two fields

has provided an in-depth understanding of the publication of SRs and contributed to the writing endeavor. For example, based on critical discourse analysis, Nwagbara and Belal (2019) investigated how language (choice) in CSR reports of leading oil companies in Nigeria is used to portray an image of "responsible organization" while Sun et al. (2018) investigated metaphor usage as a discursive and cognitive strategy for developing corporate images in Chinese and American CSR reports from the perspective of corpus-based conceptual metaphor analysis. Based on discourse analysis, Higgins and Coffey (2016) explored strategies companies use to show what sustainability reports 'do' to offer insights about what they 'could do' and how sustainability is embedded into the company's strategic priorities.

Corporate reports have been viewed as rhetorical vehicles. Just as Ingram and Frazier (1983) criticized the rhetoric in SRs earlier, Van Der Ploeg and Vanclay (2013) also questioned whether SRs represent credible claims or corporate spin, to which they proposed a Sustainability Reporting Assessment. Two items they covered, 'consideration of all relevant aspects of operations' and 'use of evidence to support claims,' are related to the rhetoric analysis in this article. Literature has proven that discourses in sustainability practices are not merely rhetoric. A review by Cyphert (2021), for instance, shows that "[C]orporations were not merely recognizing the importance of conserving limited natural resources but developing an internal

discourse of decision making that could support continuous, successful adaptation to an ever-changing environment” (p. 2).

Corporate reports employ many images to support contents because of the distinctive role and benefits of visual imagery and have been used for rhetorical purposes in their communications to produce desired messages about the nature and performance of the organization (Greenwood et al., 2018). By conducting a rhetorical analysis, Greenwood et al. (2018) provided an interpretation of the connotations available in the visual design elements in relation to each other and the contexts of the specific organizational setting. Thus, multimodality is crucial in corporate reports to support contents, as will be proven with the images and context in the SRs in the discussion later.

Discursive Practices in Sustainability Reports

Research from the linguistic perspective certainly provides crucial input into the construction of this genre, particularly the type of language and the context in which the language is used. For example, Fuoli (2012) conducted a corpus analysis employing the Appraisal theory to examine the interpersonal language resources in two companies’ social reports, specifically how they discursively construct their corporate identity in the reports and the kind of relationship they establish with their putative interlocutors. Using the same type of analysis, Fuoli (2018) investigated how companies use stance expressions in their

annual and corporate social responsibility (CSR) reports to construct and promote a positive corporate identity to gain the trust of the stakeholder groups that these texts target.

Rajandran and Taib (2014) employed critical discourse analysis to examine how Malaysian CEO Statements represent corporate social responsibility emphasizing image and language features in a text while exploring intertextuality in discourse practice and ideology in social practice. Later, Rajandran (2015) employed Systemic Functional Linguistics to examine how the Environment Sections in Malaysian corporate social responsibility reports disclose environmental CSR, focusing on the macrostructure (topics) and microstructure (language features).

The genre perspective of CSR/SR is provided by A. Bhatia (2012), who considers CSR reports as a hybrid genre and attempted to identify the communicative purposes and the differences in the discursive construction of this genre in three similar industries (oil, banking, and aviation) from China and US. Specifically, the article reports how and to what extent these reports meet the expectations of the international discourse community. Other genre-based studies generally provide a macro perspective. The generic structure of CSR and sustainability reports as undertaken, for example, by Catenaccio (2011) on CSR reports issued by large western companies over the period 2000–2007; and Yu and Bondi (2017) on a collection of CSR reports published in Italian, Chinese and English

in 2013. Lin's (2020) recent study also provides the macrostructure of how 37 Chinese Fortune 500 companies represent occupational fatalities and injuries in their CSR reports. The difference in Lin's (2020) study is presenting negative reports to the stakeholders.

Very few studies provide in-depth perspectives of sustainability/CSR reports. For example, A. Bhatia (2013) investigated the linguistic and rhetorical resources exploited in CSR reports from PetroChina, one of the largest oil companies in the world, based on critical genre analysis (V. K. Bhatia, 2008; 2010). In addition, A. Bhatia (2013) discussed how the CSR reports are constructed, interpreted, and exploited by corporate players within conventions that govern and constrain CSR reporting practices and the extent to which the disclosure practices meet the expectations of various stakeholders, in particular, those suggested by agencies such as the United Nations Conference on Trade and Development about standards in the reporting of CSR actions. Thus, more critical analyses of the construct and linguistic aspects of SRs are required to understand this genre from different perspectives.

MATERIALS AND METHOD

The plantation industry was selected because it has been considered an environmentally sensitive industry (Darus et al., 2013) that directly impacts the environment, and reporting sustainable initiatives can be considered crucial for the survival of the companies. There is substantial literature

discussing sustainability disclosure in this industry in Malaysia focusing on contents such as investigating factors influencing public-listed companies to use corporate websites to communicate their CSR information (Darus et al., 2013), examining the level of CSR disclosure, and ascertaining whether size, profitability, and leverage of the company correlate with the level of CSR disclosure (Chek et al., 2013) and examining environmental-related risk disclosure (Yusoff et al., 2019); while in neighboring Indonesia, investigating how corporate social and environmental strategy can contribute to corporate social and environmental reporting (Lestari et al., 2019). Although presented from the linguistic perspective, Lin's (2020) and A. Bhatia's (2012) data do not include this industry.

One plantation company in Malaysia, Kulim (Malaysia) Berhad (KMB), was selected as a case company because the company won the Industry Excellence Award (Plantations & Mining Category) in the Malaysian National Annual Corporate Report Award (NACRA) 2014 and 2020, and Excellence Category for Sustainable Palm Oil Plantation Management at the Global Responsible Business Leadership Award 2018 among others. With written permission from the company, texts in sustainability reports published in KMB e-annual reports (<http://www.kulim.com.my>) from 2013 to 2020 were extracted to form a corpus of 59,547 words (excluding captions and texts on the images) for this investigation. The sustainability reports were coded SR2013-2020 for reference in the discussion (Table 1).

Table 1

Codes for sustainability reports 2013-2020

Annual report	Sustainability report heading	Code
2013	SUSTAINABILITY	SR2013
2014	SUSTAINABILITY	SR2014
2015	SUSTAINABILITY	SR2015
2016	SUSTAINABILITY	SR2016
2017	SUSTAINABILITY	SR2017
2018	SUSTAINABILITY	SR2018
2019	SUSTAINABILITY REPORT	SR2019
2020	Ensuring Sustainable Value Creation	SR2020

The method of analysis selected is critical genre analysis (CGA, V. K. Bhatia, 2008, 2010). CGA generally examines the corpus to identify the generic structure based on the texts' communicative purpose(s). It is followed by examining how the texts are constructed, interpreted, and exploited within the context in which they are used. Thus, drawing on the concept of CGA, the corpus was first investigated to identify how KMB discloses its sustainability activities by establishing the generic structure of

the SRs and examining the extent of compliance with the Bursa Malaysia reporting framework. Next, the investigation examined how the SRs are constructed, interpreted, and exploited, focusing on the existence of rhetoric which is discussed based on Crawley and Hawhee's (1994) explanation of ancient and modern rhetoric (Table 2). Finally, the texts in the disclosure of the eight SRs were checked against the explanation of ancient and modern rhetoric to confirm where they stand.

Table 2

Comparison between ancient and modern rhetoric

Ancient rhetoric	Modern rhetoric
Factual proofs were not highly valued (Individual) opinions were valued as a source of information (based on the a belief that an individual represents a community	Facts and testimonies are virtually required Opinions are dismissed as unimportant
Teaching is situated in a place and time where local and temporal conditions influence the composition	Rhetorical occasions are conventionally treated as if they are alike
The role of language was seen as a tool that did many things, e.g., to instruct, delight, and move	The role of language is limited to the communication of facts with empirical evidence and expert knowledge

The investigation also involves the role played by the theory of multimodality (Kress, 2010), which includes the many different modes people use to communicate, particularly combining different semiotic resources such as images and graphics with the texts. The framework for the analysis can be depicted in Figure 1.

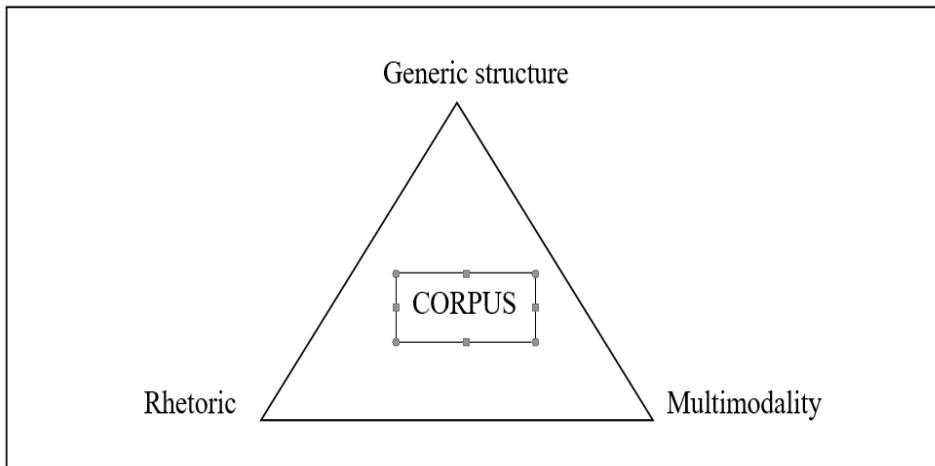


Figure 1. Framework for critical genre analysis

RESULTS AND DISCUSSION

As a public listed company, KMB has been publishing its annual report every year for eight consecutive years (2013–2020) at the time of data collection, complying with the requirements of the Malaysian Bourse as well as the new framework launched by GRI in May 2013 and the Integrated Reporting Framework in December of the same year in which a sustainability report (SR) is very much a part of, which can generally be found in Section 4 or 5 of the annual reports and which is the only focus of this article.

As annual reports are documents on which investors base their decision to invest in a company, they pose buying-in challenges to the preparers in terms of content and language choice. For example, although

the CSR framework has stipulated the main contents of the sustainability section, they need to be presented to show that the company complies with the framework’s requirements and is not merely rhetorical in the reporting.

The eight SRs published in KMB’s annual reports consist of an average of 28.5 pages, including section headings generally using ‘Sustainability’ but ‘Ensuring Sustainable Value Creation’ in SR2020. The presentation style is multimodal (Karreman et al., 2014), consisting of texts and images. The disclosure in the reports displays a six-move generic structure with 100% occurrence generally but not necessarily in this sequence. The moves are:

Move 1: Introducing sustainability in KMB

Move 2: Indicating compliance with Sustainability/CSR policy

Move 3: Providing information on a commitment to the workplace

Move 4: Providing information on a commitment to community

Move 5: Providing information on a commitment to the environment

Move 6: Providing information on a commitment to the marketplace

Each move is realized by several strategies which strategically employ multimodality and modern rhetoric. These are discussed below to illustrate how the preparers construct, interpret, and exploit the texts to achieve the purposes of SRs laid out in the GRI, particularly on rhetoric. The generic structure concurs with modern rhetoric, where ‘rhetorical occasions are conventionally treated as if they are all alike.’ It is further enhanced with the 100% occurrence of the six moves. It can be established that the SRs embody modern rhetoric, which requires facts and testimonies. It has been achieved in the disclosure exemplified in the discussion of the six moves below.

Introduction to KMB’s Sustainability

The opening move in the report, Move 1, ‘Introducing sustainability in KMB,’ start by emphasizing the importance of sustainability in business which has been the core of KMB’s values, policy, and practice:

Kulim is committed to growing its business sustainably (SR2017). As we move ahead in the 21st Century, we believe that the success of an organization will be driven by the principles of long-term sustainable development. The sustainability of a business has gone beyond the traditional measures of profits, return on investment, and shareholder’s value. (SR2015)

That is why we have long embedded sustainability and corporate responsibility as an integral part of our core values, policy statements, and work practices. (SR2014)

The following strategy illustrates how sustainability has been adapted into KMB’s business practices. From 2013 until 2017, KMB responded to the UN Bruntland Commission’s definition of sustainability as “Meeting the needs of the present generation without compromising the ability of future generations to meet their own needs” by

focusing on performance along the interrelated dimensions of People, Planet and Profits (“3Ps”), also known as the Triple Bottom Line. (SRs 2013-2017)

The 3Ps are etched in KMB’s sustainability framework. In 2015, the UN developed 17 Sustainability Development Goals (“SDG”) under the aegis of “Transforming Our World: the 2030 Agenda for Sustainable Development” accepted by most countries, including Malaysia. The SDGs aligned with

KMB’s sustainability efforts have been highlighted throughout the SRs. Hence, for the 2018 reporting, KMB moved from “3Ps” to “5Ps” (Peace, Prosperity, Planet, People, and Partnership).

The 5Ps were introduced to provide a good understanding of the broad scope of KMB’s sustainability agenda. (SR2018)

In 2020, KMB revised its sustainability framework to uphold its *commitment to*

“No Deforestation; Protection of Peat Areas; and No Exploitation of People and Communities” (SR2020) presented under the three pillars of Environment, Social, and Governance. In sum, KMB has disclosed its sustainability initiatives within the three frameworks in compliance with Bursa Malaysia’s reporting framework with four focal areas of Environment, Workplace, Community, and Marketplace, as depicted in Table 3.

Table 3
KMB’s compliance with the reporting framework

Focal areas	KMB’s Framework (–2017)	KMB’s Framework (2018–2019)	KMB’s Framework (2020–)
Environment	Planet	Planet	Environment
Workplace	People	People	Social
Community	People	Peace	Social
Marketplace	Profits	Prosperity, Partnership	Governance

Compliance with Sustainability Policy

Having established the sustainability framework, Move 2, ‘Indicating compliance to CRS or Sustainability Policy,’ shows that KMB has established a policy on sustainability to comply with the framework. With a sub-heading ‘*POLICY FRAMEWORK*,’ KMB highlights its commitment to the “3Ps,” presented in uppercase, presumably indicating their strong commitment to sustainable business practices.

POLICY FRAMEWORK

WE INTEGRATE OUR BUSINESS STRATEGY WITH SUSTAINABILITY THROUGH A COMMITMENT TO PEOPLE, PLANET, AND PROFIT (“3Ps”). THE 3Ps GOVERN HOW WE CREATE SUSTAINABLE VALUE FOR ALL OUR STAKEHOLDERS. TO MEET OUR GOALS AND DELIVER THE SUSTAINABLE RETURNS SUSPECTED OF US, WE EMBRACE A DEEP COMMITMENT TOWARDS BUILDING A FAIR, ETHICAL AND

RESPONSIBLE COMPANY. THIS SITS AT THE HEART OF OUR SUSTAINABILITY APPROACH AND STRUCTURES OUR RELATIONSHIPS WITH OUR STAKEHOLDERS AND THE OPERATING ENVIRONMENT (SR2013).

KMB embraces the principles of sustainable development, and the Company's goal is to ensure that future generations will continue to benefit from today's actions.

KMB defines sustainable development as encompassing social responsibility, resource stewardship, appropriate environmental control, and the capacity to produce efficiently. The goal of sustainable development will be achieved by balancing the considerations for People, Planet, and Profit in all management decisions and operations. (SR2013)

SR2014 until SR2019 use 'OUR SUSTAINABILITY POLICY' as the sub-heading to give a personal touch, while SR2020 uses 'OUR APPROACH TO SUSTAINABILITY' to enhance the personal touch further. Within a multimodal style, the policy is depicted in an image of a pyramid (Figure 2) and explained as follows:

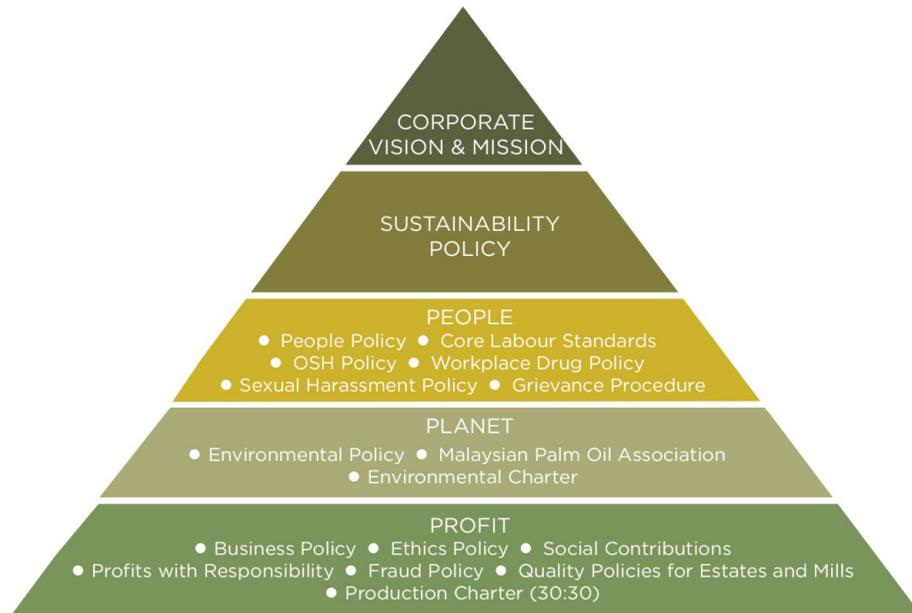


Figure 2. Policy framework (SR2014)

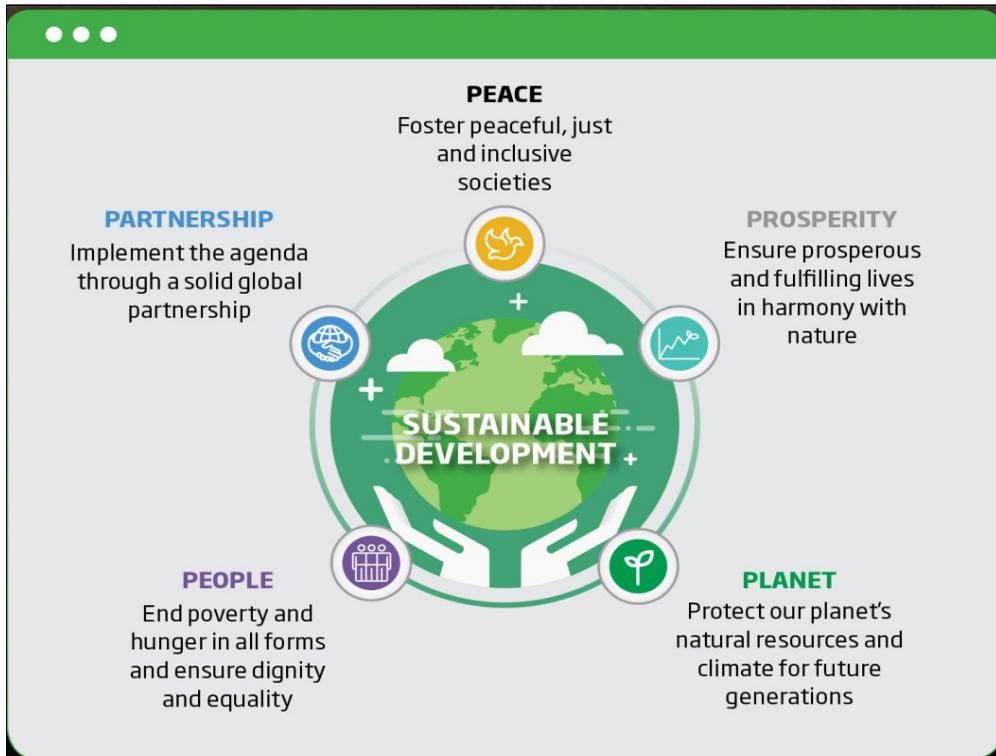


Figure 3: Policy framework (SR2019)

The readers can easily capture the policy, an application of multimodality to support modern rhetoric as depicted in images. For example, in SR2018 and SR2019, the policy illustrates the 5Ps matching the nation's SDGs (Figure 3), followed by the explanation:

By defining all that we do within the 5Ps, we have embraced the more comprehensive 17 Sustainable Development Goals (“SDG”), now the global standard for sustainability. As a plantation company, we are aware that the world is watching us. Even before sustainability became a global clarion call, Kulim had adopted many

agricultural practices now deemed sustainable. Today, Kulim’s business policies, strategies, and operations are aligned with both global and industry sustainability frameworks. With this, we can stand up to scrutiny as a responsible plantation company committed to enhancing value for diverse stakeholders—from shareholders to the wider community and the environment. (SR2019)

KMB stresses that it complies with the relevant Acts and Regulations pertaining to sustainable business

ISCC is a multi-stakeholder initiative with the multi-pronged objective of reducing GHG emissions, promoting sustainable use of land, protecting natural biospheres, and achieving social sustainability. The ISCC standard ensures compliance with the requirements of the European Union, Renewable Energy Directive, and Germany's Sustainability Ordinance. All five of our mills have been accorded ISCC status. (SR2020);

and reveals that it takes the necessary actions to comply. For instance, KMB is proud to announce that it was among the first palm oil companies to sign up for RSPO certification, achieved for all its estates in January 2009.

Almost all our operating units have undergone prerequisite re-certification audits in December 2013, and with some fine-tuning, the new certification was received in April 2014 ... (SR2014)

KMB also assures its customers of its ability *to sustainably produce Certified Sustainable Palm Oil ("CSPO") lies on our continuous commitment to the Roundtable on Sustainable Palm Oil ("RSPO"). Equipped with a set of guidelines that an organization has to adopt, the RSPO certification complements the general efforts of the Group towards achieving sustainable development in our plantation sector.* (SR2018)

Perhaps it is easy to say that any company can state such an action (embracing the principles) on paper but can be doubted in action. However, KMB illustrates how the principles are embraced in the company's sustainable management system (SMS) (SR2016) as a basis for KMB's key performance indicators, which are depicted strategically in a flow chart. Multimodality has been exploited to support KMB's actions. The policies mentioned are supported with images of KMB's certification from the various certification bodies. The actions are illustrated with KMB's guidelines for working and managing the plantations, testimonies required in modern rhetoric.

Commitment to the Workplace

Move 3, 'Providing information on the commitment to the workplace,' is presented under the banner of 'People' and 'Social' (SR2020), referring to the employees at all levels. To KMB,

Our people, our greatest asset (SR2020)

The first strategy shows that KMB values its employees by emphasizing the importance of a conducive work environment.

The People aspect of Sustainability has always had a special meaning for KMB. We share the global vision to build healthy and vibrant communities. Improving the well-being of the individual on an equitable basis, practicing ethical responsibility in dealing with the communities in which

we work and play, and protecting the vulnerable form the basis of sustainability. (SR2017)

Under the sub-heading of ‘Developing Our People,’ the statistics of its staff strength in all KMB’s plantations are provided and supported with its human resource policies stressing that KMB is governed by Malaysia’s labor laws as well as the International Labor Organization’s Declaration on Fundamental Principles and Rights at work. In addition, KMB is also guided by the Code of Conduct for Industrial Harmony, which sets forth the “principles and guidelines to employers on the practice of industrial relations for achieving greater industrial harmony” as conducive environment results in a happy, healthy, and ethical workforce.

At the same time, KMB acknowledges the importance of a skilled workforce, which is critical for its success, and the company strives to develop its human capital.

Among our many initiatives, we have in place a Performance Management System (“PMS”) that is aimed at promoting a high-performance culture. We have also implemented a performance-based Reward System to improve employee competencies. Each year, the targets are reviewed, and the bar is raised so as to challenge the Group and employees to achieve the next level of performance. (SR2017)

Engendering gender quality is another strategy that KMB emphasizes, promoting

gender equality and stressing that women are not discouraged nor discriminated against to work in the estates.

As of 31 December 2016, women made up 11.52% of our workforce, and 12.41% of them are at the management level. (SR2016)

Because of KMB’s commitment to upholding the welfare of women, the company was awarded the *Employment of Women Award (Gold) in the 9th Annual Global CSR Summit and Awards Ceremony 2017.* (SR2017)

Finally, to ensure every employee’s right to work in a safe and healthy work environment, KMB’s mission is to manage occupational safety and health (OSH) effectively through the implementation of efficient oversight and regulatory action enforced at all mills and estates, and this has proven successful with the low fatality rate illustrated by statistics yet another proof of modern rhetoric.

KMB is pleased to report that we continued to achieve our goal of zero fatalities in 2016. The year under review also saw a marked improvement in the Lost Time Accident Rate (“LTAR”) which was recorded at 3.51 as compared to 6.82 posted in the previous year, keeping us within the target of below 10. Our injury severity rate of 2.13 is a marginal improvement versus 2.28 in 2015, against the target of below 3.5. (SR2016)

Commitment to the Community

Move 4 ‘Providing information on a commitment to the community is also under the banner of ‘People’ in the 3Ps framework and under the banner of ‘Peace’ in the 5Ps framework. The community refers to all those connected to KMB in any way, such as villages neighboring the plantations. KMB strongly believes that the surrounding community plays an important in its business performance, stressing that it builds

community trust by integrating corporate responsibility and sustainability in all our business processes and contributing to the well-being of the communities in which we operate.

In today’s increasingly interconnected world, no business can operate as an entity unto itself. For KMB, this means striving to be a good neighbor and friend, planting roots deep into the communities wherever it operates. Taking an active role in the community has always been central to our core values, identity, and our business strategy of putting people first. We play our part in responding to the needs of society and sharing our success to help improve the quality of life in the community. (SR2018)

KMB also believes in giving to the community, and its community development programs and activities rest on five (5) main pillars: community, sports, welfare, education, and infrastructure development.

KMB encourages staff at all levels to participate in the programs. To stress the seriousness of KMB’s commitment to the community, the activities carried out, and the amount spent are presented in all the reports. Images of the activities are also displayed as proof that the SRs are not mere rhetoric.

Our community outreach efforts take many forms. It combines donations in cash and in-kind, as well as active participation by our employees in community projects and activities. We have an open approach to communication with local communities ... (SR2014)

Commitment to the Environment

Move 5, ‘Providing information on a commitment to environment,’ is presented under the banner of ‘Planet’ in both the 3Ps and the 5Ps framework, sub-headed as *Environmental Performance* (SR2013) or *Protecting Our Planet* (SR2017). The disclosure is crucial as it pertains directly to the environment. Apart from complying with certification requirements, standards, and policies stated in Move 2, KMB realizes its commitment to achieving sustainable development by protecting the environment with several strategies to reveal good management practices. The first is ensuring the preservation of the environment by conserving biodiversity.

KMB is well aware of the essential role it plays in protecting biodiversity and maintaining natural habitats.

Our plantations in Johor border the EndauRompin National Park and the Labis Forest Reserve. The last survey to assess the state of flora and fauna bordering our estates was undertaken in 2008, and according to the International Union for Conservation of Nature, the biodiversity of appenlife on its Red List of Threatened Species has become even more precarious. (SR2015)

Initiatives to preserve the environment include saving the country's natural heritage especially endangered species, with the formation of 'Kulim Wildlife Defenders;' enhancing biodiversity areas, setting aside 52.46 hectares of land for buffer zones, and acknowledging the negative impacts of its operations and initiating serious measures.

Recognizing the importance of conserving water and ensuring healthy water quality in the country's waterways, KMB strives to manage water responsibly and effectively. Similar measures are taken to manage solid waste and the use of chemicals.

We recycle water from sterilizer condensates for use in our mills in order to reduce our water consumption, and have set the target of maintaining consumption intensity below 1.2 m3 per tonne of FFB. Although our consumption intensity increased by a marginal 3.8% from 2019 to 2020, it remained below our target. (SR2020)

To minimize solid waste, KMB has put in place standard operating procedures for the disposal of solid waste EFB is used as biocompost, while more than half of the palm fibers and shells are used as biomass at our mills. The remaining of the palm fibers is used as biocompost while the shells are sold. (SR2016)

To reduce chemical usage, KMB has long endeavored to find an alternative to pesticides, and in 2008, we introduced cattle rearing as part of our effort to reduce chemical usage in our operations as natural weeding program. In lieu of using pesticides, we have also adopted Integrated Pest Management ("IPM") techniques to control pests, diseases, weeds, and introduced invasive species. IPM techniques include the use of barn owls, which were introduced to our estates to control the rodent population. (SR2016)

Operating an environmentally-sensitive industry, KMB makes addressing climate change an important agenda.

As early as 2013, KMB published its inaugural Carbon Footprint Report 2012, the first of its kind in Malaysia (SR2014). The company has set a target to reduce the Group's overall carbon footprint to 58% by 2020 and to establish biogas plants at all of its five (5) mills by 2025. The installation of biogas plants at the remaining two (2) POMs are expected to be completed

by 2019 to meet the requirements of the DOE. (SR2018)

KMB has always been committed to ensuring that its business causes the least impact on the environment, particularly

from carbon emissions, with its strategy (Figure 4), which has proven successful based on the awards received for sustainable palm oil management. The images prove the actual processes and not just KMB's words.

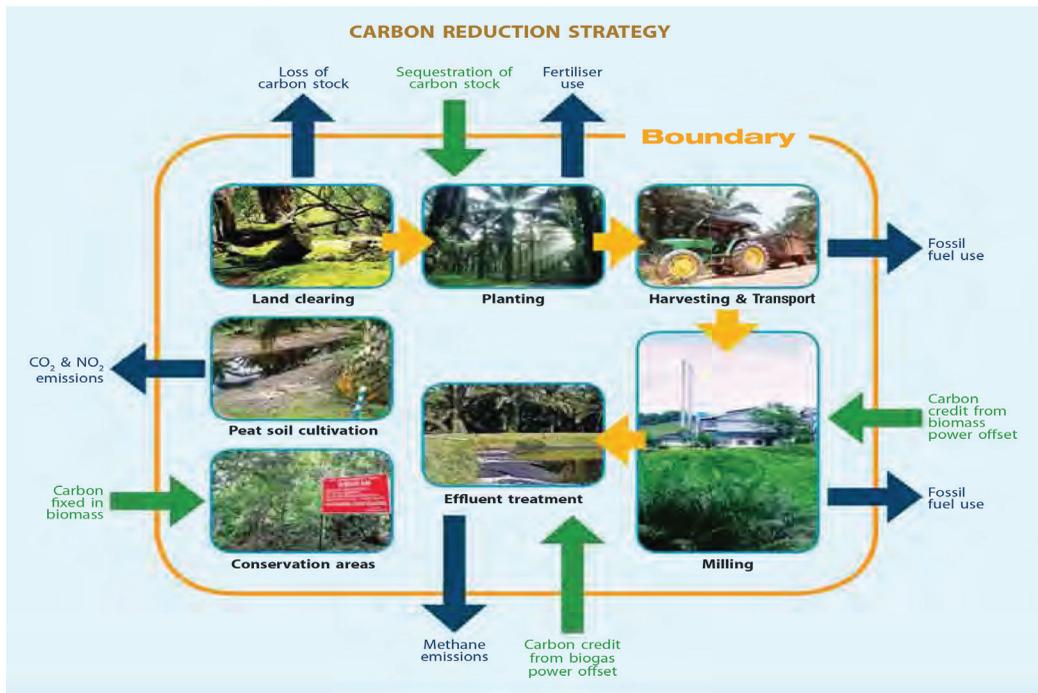


Figure 4. KMB's carbon reduction strategy (SR2013)

KMB assures that installing biogas plants has led to an overall carbon footprint reduction, targeting 50% (0.88 MT CO₂ e per MT CPO/PK) by 2025 and further to 90% (SR2020). However, these figures reveal that the disclosure in the SRs represents modern rhetoric.

Commitment to the Marketplace

Move 6, 'Providing information on a commitment to marketplace' is under the

banner of Profit in the 3Ps, with SR2013 using 'Doing our part for the palm oil supply chain' as the sub-heading while SR2014 through SR2017 use 'PROFIT' as the sub-heading. In SR2018 and SR2019, this move occurs under the banners of Prosperity and Partnership in the 5Ps sub-headed with the same terms. However, in SR2020, the approach is very different as the marketplace is placed under the banner of Governance.

KMB ensures that it complies with good governance and is ethical in its dealing

with both buying fresh products and selling processed products, presented in uppercase for emphasis.

THE BULK OF OUR CROP IS SOLD TO REFINERIES, WHICH IN TURN PRODUCE FOOD INGREDIENTS AND COOKING OILS LARGELY FOR DOMESTIC SALES. THERE IS A GROWING PRESSURE ON THE PALM OIL PLAYERS TO ENSURE AN ETHICAL AND SUSTAINABLE SUPPLY CHAIN THAT IS FULLY TRACEABLE TO THE ORIGINS OF THE CROP. WE ARE WORKING ON FULL CERTIFICATION OF ALL THE FRESH FRUIT BUNCHES (“FFB”) PROCESSED BY OUR MILLS AS PART OF OUR COMMITMENT TO RSPO. (SR2013)

KMB believes that to compete successfully in an increasingly complex and ever-changing business environment, and it needs to engage all the stakeholders, the employees, business partners, investors, members of the media, suppliers, the community at large, government agencies, Non-Governmental Organizations (“NGOs”) and unions by building good relationship and productive rapport. Therefore, KMB developed a materiality matrix to analyze and prioritize actions to achieve this.

The materiality matrix presented here lays out the business, social and environmental issues that affect our business activities and can be used to help guide our decisions and prioritize our actions. (SR2015)

In SR2020, engaging the stakeholders is even more enhanced when KMB reiterates that it

upholds the highest level of corporate governance as we recognize the importance of gaining and maintaining the trust of all our stakeholders.

The governance highlights KMB’s commitment to fighting corruption, ensuring compliance and transparency in business transactions, and traceability and quality of products. For example, KMB’s quality policy ensures the highest quality rolling out of its mills.

Move 6 is about profit making, but a significant observation is how KMB downplays this action in SR2018 by using subheadings ‘prosperity’ and ‘partnership’ and highlighting its commitment to engage the stakeholders. KMB believes that corporate citizens are increasingly held accountable not only to their shareholders but also to stakeholders such as employees, consumers, suppliers, local communities, and society at large, where companies that invest in eco-efficiency and engage themselves in social well-being have a competitive advantage. Furthermore, earning the goodwill of consumers and communities in the marketplace will be reflected in the bottom line and, ultimately, the long-term value for shareholders.

CONCLUSION

The disclosure in KMB’s eight SRs generally complies with the reporting framework, including all four focal areas of

environment, workplace, community, and marketplace. It is exhibited in the six moves realized by several strategies, demonstrating KMB's commitment to eliminate or at least minimize the negative impact of its business endeavors environmentally and socially, as required by GRI. By adopting the nation's SDGs, the SRs disclose the company's values and governance model and demonstrate the link between its strategies and its commitment to a sustainable global economy.

The construction of the texts displays multimodality with a high interplay of images and graphics to support the disclosure.

The combination must complement each other to be effective (Karreman et al., 2014). By aptly applying multimodality, the SRs successfully eliminate ancient rhetoric but demonstrate modern rhetoric (Crawley & Hawhee, 1994) as a form of subtle persuasion. The texts that describe the contents are accompanied by colorful, interesting yet appropriate images and graphics, for example, the luscious green scenery of a plantation in Figure 5, proving that multimodality can transform a common report into an enlightening read. It confirms multimodality's significant role in the construction of SRs.



Figure 5. One of KMB's plantations (SR2015)

As modern rhetoric requires facts and testimonies, the KMB SRs provide the facts with the statistics of staff strength, the number of plantations, and even the amount of reduced carbon footprint, to name a few. In contrast, the testimonies are provided with original images of staff activities, the plantations, and the finished products.

The SRs do not include personal opinions from any management team members. The language style adopted communicates facts provided with empirical evidence and expert knowledge in the industry. The SRs are not the proverbial rhetoric merely paying lip service but demonstrate a successful presentation of facts and figures about

KMB's activities to achieve sustainable business as GRI requires.

Future research can explore further linguistic devices used to realize modern rhetoric in the SRs and investigate the generic structure of more SRs in this and other industries.

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Peristiwa dan Kenangan dalam Syair Diraja Melayu Perak-Johor Era Kontemporari

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ABSTRAK

Syair Riwayat Yang Amat Mulia Tengku Ampuan Besar Pahang (1953) merupakan rakaman terakhir sejarah golongan diraja. Golongan raja tidak lagi menjadi idea dalam penulisan setelah kehadiran kuasa Barat yang membawa corak kepengarangan yang pelbagai bentuk dan genre. Syair tidak lagi menjadi pilihan sebagai wadah penulisan. Corak kepengarangan sedemikian mula menjadi lemah apabila sastera moden berkembang. Sedangkan, pada abad ke-16 hingga ke penghujung abad ke-19, syair ialah satu daripada wadah pengkaryaan penulis-penulis istana. Corak kepengarangan pada era ini ialah pujian dan penceritaan mengenai sultan pada zamannya. Walau bagaimanapun, pada era kontemporari ini muncul dua karya sedemikian iaitu *Syair Sultan Azlan Shah Berjiwa Rakyat* (2009) karya Mohd Ibrahim Said dan *Syair Duli Yang Maha Mulia Sultan Ibrahim Ibni Almarhum Sultan Iskandar* (2018) oleh Maskiah Masrom. Kedua-dua teks syair diraja ini dijadikan sampel kajian. Hasil penekunan menemukan kedua-dua penulis menjadikan raja sebagai objek penulisan. Peristiwa dan kenangan menjadi idea kepengarangan yang digunakan oleh kedua-dua penulis dalam mempersembah penceritaan berhubung raja-raja mereka. Kaedah kaji banding diaplikasikan semasa meneliti kepengarangan penulis dalam mempersembahkan idea rakaman sejarah diraja pada era kontemporari. Kaedah

kajian secara intrinsik terhadap sampel kajian juga turut digunakan. Dapatan kajian menemukan persamaan kepengarangan dalam merakamkan peristiwa dan kenangan yang berlaku semasa perjalanan hidup raja mereka.

Kata kunci: Kajian perbandingan, kepengarangan, kontemporari, kritikan sastera, syair diraja

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Events And Memories in Syair Diraja Melayu Perak–Johor Contemporary Era

ABSTRACT

Syair Riwayat Yang Amat Mulia Tengku Ampuan Besar Pahang (1953) is the last recording of royal history. The raja group is no longer an idea in writing after the presence of Western powers that brought together their pattern in the authorship of various forms and genres. Poetry is no longer an option as a writing platform. Such authorship is starting to weaken when modern literature is rife. In the 16th century to the end of the 19th century, syair was one of the masterpieces of the palace writers. The authorship pattern in this era is praise and narration of the sultan in his time. However, two works emerged in this contemporary era: *Syair Sultan Azlan Shah Berjiwa Rakyat* (2009) by Mohd Ibrahim Said and *Syair DYMM Sultan Ibrahim Ibni Almarhum Sultan Iskandar* (2018) by Maskiah Masrom. Both texts of this Royal syair are made as a study sample. The results found that both writers made the king their object of writing. Events and memories became the idea of authorship used by these two writers to present a narrative concerning their kings. The comparative study methods were applied to examine the author's authorship in presenting the idea of recording the royal history of the contemporary era. Intrinsically research on the study samples was also used. The findings found that there is a similarity in authorships to record events and memories during their king's life.

Keywords: *Literary criticism, comparative study, authorship, royal poetry, contemporary*

PENGENALAN

Ketepatan fakta menjadi idea atau isi penceritaan berhubung peristiwa sejarah¹ yang dimuatkan dalam karya syair. Ketepatan fakta adalah kerana ketiadaan unsur sakral, mitologis, kesaktiaan dan motif legenda dalam isi atau idea penceritaan yang dimuatkan dalam karya sejarah berbentuk syair ini. Isi atau idea penceritaan sedemikian diakui kebenarannya jika dibandingkan karya penulisan sejarah

dalam bentuk prosa, hikayat dan salasilah. Begitu juga dengan karya syair diraja yang lahir pada era kontemporari iaitu *Syair Sultan Azlan Shah, Putera Berjiwa Rakyat* yang diterbitkan pada tahun 2009 karya Ibrahim Mohd Said. Sembilan tahun kemudian muncul pula *Syair DYMM Sultan Ibrahim Ibni Almarhum Sultan Iskandar* yang dihasilkan oleh Maskiah Masrom pada tahun 2018. Kedua-dua penulis syair ini bukan daripada golongan istana. Mereka juga tidak mempunyai hubungan yang rapat dengan kerabat diraja. Sebaliknya, kedua-dua penulis ini hanya

¹ Muhammad Yusuff Hashim (1991) menjelaskan bahawa karya sastera bercorak sejarah dapat digunakan terus sebagai sumber sejarah.

rakyat yang bekerja sebagai guru. Situasi ini tidak memungkinkan mereka berpeluang mendekati atau menjejaki istana untuk mendapatkan maklumat mengenai sultan negeri masing-masing yang dijadikan objek penceritaan dalam karya mereka. Walau bagaimanapun, kedua-dua penulis mampu mengungkapkan, menggambarkan dan memerihalkan sultan masing-masing dalam karya syair diraja ini.

Cerita-cerita sejarah yang dikemukakan dalam syair-syair pemerihalan raja atau pemerintah adalah berdasarkan peristiwa yang benar-benar berlaku, tempat-tempat dan watak-watak yang pernah wujud (Harun Mat Piah, 1987). Fakta sejarah yang tepat seperti yang dijelaskan oleh Harun Mat Piah diaplikasi oleh kedua-dua penulis. Objektifnya agar pengarang² dapat memperkembangkan karya ini dalam konteks pemerihalan, pengangkatan dan penyanjungan penyair terhadap raja bagi negeri masing-masing. Justeru, kedua-dua³ penulis merakamkan peristiwa, kenangan, nostalgia pada zaman kanak-kanak, remaja serta kenangan pahit manis dalam perjalanan hidup yang dilalui oleh sultan mereka, yang menjadi idea kepengarangan dalam dua karya syair diraja ini. Mesej dan pengajaran yang dipaparkan melalui nostalgia zaman kanak-kanak yang dilalui oleh Sultan

Azlan Shah membuktikan bahawa baginda lahir di sebuah perkampungan, hidup dan membesar dengan penuh kenangan yang membahagiakan. Justeru, baginda memiliki jiwa kerakyatan yang tinggi. Manakala peristiwa dan kenangan yang dilalui oleh Sultan Ibrahim memberikan mesej dan pengajaran kepada khalayak bahawa cabaran hidup akan dilalui biarpun berdarah raja kerana setiap manusia adalah sama di sisi Yang Maha Kuasa.

Objektif Kajian

Syair Sultan Azlan Shah, Putera Berjiwa Rakyat dan *Syair DYMM Sultan Ibrahim Ibn Almarhum Sultan Iskandar* merupakan dua karya syair baharu dalam era kontemporari. Oleh itu, objektif kajian ini adalah untuk:

1. mengenal pasti idea, menghuraikan dan membincangkan skop atau kriteria yang menjadi idea kepengarangan, dan
2. membandingkan idea, skop dan kriteria yang menjadi idea kepengarangan bagi kedua-dua karya syair diraja ini.

METODOLOGI

Metode kajian teks digunakan dalam kajian ini kerana penganalisan menggunakan penelitian secara berulang kandungan ke atas kedua-dua teks karya ini. Pembacaan teks *Syair Sultan Azlan Shah, Putera Berjiwa Rakyat* dan *Syair DYMM Sultan Ibrahim Ibn Almarhum Sultan Iskandar* dilakukan secara rapi dan berulang-ulang kali bagi memahami penyampaian idea atau isi cerita yang dijadikan fokus kajian. Kaedah analisis kandungan turut diaplikasikan

2 Harapan Ibrahim Mohd Said (2009) terhasilnya karya syair kisah dan riwayat hidup jasa dan sumbangan baginda akan terpahat untuk tatapan generasi kemudian hari.

3 Maskiah Masrom (2018) menyatakan bahawa karya syair ini dihasilkan sebagai satu gubahan karangan syair diraja tentang diri tuanku yang perlu dihargai, dibanggai dan dikagumi.

bagi mendapatkan maklumat berhubung idea kepengarangan kedua-dua penulis dalam memerihalkan dan mengangkat raja negeri masing-masing. Maklumat atau data yang diperoleh, dikumpul untuk dianalisis menggunakan kaedah kaji banding. Analisis ini dilakukan bagi membandingkan idea kepengarangan yang diguna pakai oleh kedua-dua pengarang dalam karya mereka.

Data Kajian

Kajian ini dijalankan terhadap dua teks syair iaitu:

1. *Syair Sultan Azlan Shah, Putera Berjiwa Rakyat* hasil karya Ibrahim Mohd Said yang diterbitkan pada tahun 2009.
2. *Syair DYMM Sultan Ibrahim Ibni Almarhum Sultan Iskandar* karya Maskiah Masrom yang diterbitkan pada tahun 2018.

Justikasi Pemilihan Teks

Kedua-dua teks kajian dipilih berdasarkan empat faktor. Pertama, berasaskan kepada garis masa yang meletakkan zaman kontemporari iaitu bermula pada tahun 1970 hingga kini. Manakala zaman moden ialah sekitar 1880 hingga 1970. Berpandukan garis masa ini, syair terakhir yang membicarakan sultan atau raja ialah *Syair Riwayat Yang Amat Mulia Tengku Ampuan Besar Pahang* (1953). Karya inilah yang masih berbaki sebelum tradisi persuratan Melayu tradisional ini mati dan digantikan oleh sastera moden yang memainkan peranan signifikan pada abad ke-21. Oleh yang demikian, *Syair Riwayat*

Yang Amat Mulia Tengku Ampuan Besar Pahang tidak berada dalam lingkungan garis masa zaman kontemporari kerana syair ini diterbitkan pada tahun 1953. Berdasarkan penelitian, pada 1970-an hingga 2008, tidak ada penemuan karya syair diraja. Hanya pada tahun 2009, barulah *Syair Sultan Azlan Shah, Putera Berjiwa Rakyat* yang ditulis oleh Ibrahim Mohd Said diterbitkan. Manakala *Syair DYMM Sultan Ibrahim Ibni Almarhum Sultan Iskandar* karya Maskiah Masrom diterbitkan pada tahun 2018.

Kedua, kedua-dua teks syair diraja ini mengkhusus kepada penceritaan raja yang hidup sezaman dengan penulis. *Syair Sultan Azlan Shah, Putera Berjiwa Rakyat* yang diterbitkan pada tahun 2009 menjadikan Sultan Azlan Shah Muhibbuddin Shah, Sultan Perak yang ke-34 sebagai objek penulisan. Karya ini dihasilkan oleh penulis dari negeri Perak. Teks *Syair DYMM Sultan Ibrahim Ibni Almarhum Sultan Iskandar* pula merakamkan sejarah hidup Sultan Ibrahim, Sultan Johor yang ke-24. Ketiga, kedua-dua teks ini menjadikan raja atau sultan sebagai objek penceritaan.

Keempat, kedua-dua teks menjadikan raja atau sultan sebagai objek penceritaan. *Syair Sultan Azlan Shah, Putera Berjiwa Rakyat* yang ditulis oleh Ibrahim Mohd Said yang diterbitkan pada tahun 2009 meletakkan Sultan Azlan Shah, yang memerintah sejak 1989 hingga 2014, sebagai objek penulisan. *Syair DYMM Sultan Ibrahim Ibni Almarhum Sultan Iskandar* oleh Maskiah Masrom yang dihasilkan pada tahun 2018 pula mempersembahkan penceritaan berhubung

Sultan Ibrahim ibni Almarhum Sultan Iskandar. Baginda memerintah negeri Johor bermula pada tahun 23 Januari 2010 hingga kini. Manakala teks syair yang dihasilkan oleh penulis Kedah yang diterbitkan pada tahun 2001 merakamkan pemerintah Sultan Kedah sejak tahun 1136, pada zaman Sultan Muzaffar Shah 1 hingga pemerintahan Sultan Abdul Halim Mu'adzam Shah (1958). Kemudian *Syair Adat Istiadat Kesultanan Melayu Kelantan* (2020) pula menekankan tentang adat istiadat dalam pemerintahan kerajaan negeri Kelantan.

Terdapat tiga teks syair lain yang lahir pada era kontemporari tetapi tidak menjadi teks dasar pengkajian disebabkan oleh tiga faktor. Pertama, teks tersebut menjadikan idea lain sebagai objek penceritaan. Contohnya, teks *Syair Adat Istiadat Kesultanan Melayu Kelantan* dihasilkan oleh Aziz Deraman et al. (2020). Teks ini mempersembahkan susunan adat istiadat yang diamalkan oleh Kesultanan Melayu Kelantan. Inti pati penulisannya berasaskan buku *Halaman Adat Istiadat Raja D'Raja Kelantan*. Teks ini merangkumkan keseluruhan adat istiadat penting warisan raja-raja Melayu Kelantan. Teks kedua, *Syair Kedah Darul Aman.*, hasil tulisan Abdul Halim "R" (2006). Teks syair ini merakamkan peristiwa bersejarah Kesultanan Kedah selama 864 tahun bermula pada tahun 1136. Teks ini tidak merakamkan sejarah raja yang hidup sezaman dengan penulis. Penulis menjadikan rakaman sejarah raja negerinya yang berlaku dalam abad ke-12. Teks ketiga, *Syair Tun Abdul Razak Hussein Perdana*

*Menteri Malaysia Kedua*⁴ yang diterbitkan pada tahun 2009. Teks ini pula menjadikan pemimpin atau Perdana Menteri Malaysia yang kedua sebagai objek penceritaan.

Batas Kajian

Kajian ini dibataskan oleh idea, skop dan kriteria penulisan berhubung peristiwa dan kenangan yang dilalui oleh raja atau sultan kedua-dua negeri berkenaan dalam menjalani kehidupan.

Kajian Lepas

Berdasarkan penelitian, terdapat beberapa kajian yang dilakukan dalam genre syair diraja. Antaranya teks *Syair Tawarikh Zainal Abidin Yang Ketiga* dikaji oleh Muhammad Yusuff Hashim pada tahun 1991. Muhammad Yusuff Hashim menggunakan tiga teks syair yang berkaitan dengan Raja Terengganu, Sultan Zainal Abidin. Tiga teks berkenaan ialah *Riwayat Terengganu Darul Iman*, *Syair Tawarikh Zainal Abidin Yang Ketiga* dan Teks C⁵. Kajian beliau bersifat penyelenggaraan dan penganalisisan syair tradisional Melayu

4 *Syair Tun Abdul Razak Hussein Perdana Menteri Malaysia Kedua* hasil karya Muhd Yusof Ibrahim (2009) merakamkan keperibadian, ketokohan dan perjuangan Tun sebagai pemimpin ulung. Di samping itu, terdapat unsur teladan dengan menyerlahkan jasa dan bakti Tun Abdul Razak kepada rakyat dan negara.

5 Menurut Muhammad Yusuff Hashim (1991), teks C ini tidak dapat diberikan sebarang judul kerana bahagian awal dan akhir teks ini telah hilang. Jika dibandingkan dengan teks A (*Riwayat Terengganu Darul Iman*) dan teks B (*Syair Tawarikh Zainal Abidin Yang Ketiga*), jelas tertulis tajuk teks masing-masing.

negeri Terengganu dan bercorak sejarah. Ketiga-tiga teks ini dijadikan sandaran penelitian kritis dan mendalam berhubung penggunaan kaedah dan pendekatan penulis Melayu masa lampau dalam menulis sejarah masyarakat tempat beliau berada. Fakta sejarah dalam syair Tengku Dalam Khaltum Hasil digunakan oleh penulis teks dalam karyanya.

Noriah Mohamed mengkaji teks *Syair Sultan Almarhum Baginda Sultan Abu Bakar di Negeri Johor* (2001), hasil tulisan Na Tian Piet. Kajian ini tertumpu kepada teks luaran dan dalaman. Teks luaran meliputi pengarang dan kepengarangan serta pentarikhkan. Selain itu, Noriah Mohamed (2001) juga turut membandingkan teks *Syair Almarhum Baginda Sultan Abu Bakar di Negeri Johor* dengan teks *Syair Sultan Abu Bakar*, kajian karya seorang kelana yang berada di Pahang. Fokus perbandingan yang dilakukan adalah berdasarkan sikap sultan yang amat memikat kerana memiliki akhlak terpuji.

Struktur dan Nilai Budaya Syair Bertema Sejarah: Syair Sultan Mahmud di Lingga, Syair Perang Banjarmasin dan Syair Raja Siak hasil kajian Sunardjo et al. (2001) menjadikan tiga teks syair tersebut sebagai bahan analisis. Kajian ini tertumpu kepada teks dalaman atau struktur cerita seperti tema, amanat, penokohan, latar, dan nilai budaya. Analisis struktur dilakukan untuk mengetahui nilai budaya yang terkandung dalam teks-teks berkenaan. Penelitian dalam konteks penokohan dan latar dilakukan untuk menemukan syair bertema sejarah secara tuntas. Hasil kajian

menemukan bahawa nilai-nilai budaya yang terdapat dalam ketiga-tiga teks berkenaan membincangkan hubungan manusia dengan Tuhan dan hubungan manusia dengan masyarakat.

Seterusnya, kajian Jelani Harun (2015) terhadap teks *Syair Tawarikh Zainal Abidin Yang Ketiga Sebuah karya Agung Terengganu* telah diterbitkan dalam *Jurnal Iman*. Kajian yang dijalankan terhadap teks ini adalah untuk membuktikan bahawa kekuatan dan kedudukan syair ini sememangnya layak untuk diangkat sebagai sebuah karya agung.

Dua teks syair baharu iaitu *Syair Sultan Azlan Shah, Putera Berjiwa Rakyat* dan *Syair DYMM Sultan Ibrahim Ibni Almarhum Sultan Iskandar* secara tuntasnya mengetengahkan kekuatan kajian ini sebagai bahan analisis. Kedua-dua karya syair diraja ini lahir dalam era kontemporari. Justeru, kelompangan dari sudut teks baharu yang dijadikan landasan analisis inilah yang perlu diisi. Sedangkan, kajian terdahulu masih terikat dengan teks era 1800-an dan 1900-an.

Lantas, artikel ini bertujuan membandingkan persembahan kedua-dua teks syair ini berhubung pemerihalannya, pengangkatan dan penyanjungan penyair terhadap raja bagi negeri masing-masing.

ANALISIS DAN PERBINCANGAN

Syair Sultan Azlan Shah, Putera Berjiwa Rakyat dan *Syair DYMM Sultan Ibrahim Ibni Almarhum Sultan Iskandar* lahir dalam era kontemporari. Sanjungan dan penghormatan terhadap raja dan sultan

masing-masing menjadi idea penceritaan. Penelitian ini menemukan bahawa kedua-dua pengarang memartabatkan raja dan sultan masing-masing dengan merakamkan peristiwa yang menjadi kenangan yang dilalui dalam perjalanan kehidupan Sultan Perak dan Johor.

Peristiwa dan Kenangan

Kisah dan peristiwa adalah satu kenangan yang bermakna yang kekal dalam ingatan dan mengundang 1001 perasaan. Bahagia, gembira, suka, duka, sedih, kecewa dan hampa adalah perasaan yang lahir daripada perjalanan kehidupan. Semua ini atas ketentuan dan suratan serta rencana di bawah lembayung Allah Yang Esa. Pendokumentasian peristiwa dan kenangan yang dipaparkan dalam karya penulis adalah pujian dan sanjungan kepada paduka baginda. Sebagai insan biasa, tiada beza antara manusia meskipun yang berdarah raja. Namun perjalanan kehidupan tetap serupa biarpun tidak sama. Sultan Azlan Shah dan Sultan Ibrahim melalui pelbagai peristiwa kehidupan sebagai kenangan yang akan kekal dalam ingatan melalui karya syair diraja era kontemporari. Pengisahan peristiwa dan kenangan dirakam dalam karya *Syair Sultan Azlan Shah, Putera Berjiwa Rakyat* dan *Syair DYMM Sultan Ibrahim Ibn Almarhum Sultan Iskandar*. Inilah hakikat kehidupan yang sebenar yang dilalui oleh seorang pemerintah negeri. Biar terlihat kebahagiaan tetapi ada duka di sebalik kegembiraan.

Makanan dan minuman kegemaran serta tempat bermain dan tempat bergurau

senda merupakan peristiwa dan kenangan dalam zaman remaja Sultan Azlan Shah yang dicatat dalam karya *Syair Sultan Azlan Shah, Putera Berjiwa Rakyat*. Makanan dan minuman kesukaan baginda seperti mi goreng dan cendol merupakan kenangan dan peristiwa yang tidak akan luput dalam ingatan baginda. Warung lama yang berdekatan dengan hentian keretapi menjadi lokasi persinggahan wajib baginda. Warung lama ini akan dikunjungi oleh baginda sekiranya ke bandar raya Ipoh terutama ketika cuti sekolah bermula. Cuti persekolahan dimanfaatkan oleh baginda dengan sebaik-baiknya dengan berkunjung ke rumah rakan dan mengisi ruang selera. Bagi baginda, ini merupakan kegembiraan yang tidak akan dapat dilupakan. Baginda dapat bergembira bersama-sama rakan dan menikmati hidangan kegemaran. Aktiviti sebegini membolehkan baginda mengutip pengalaman dan menyimpan kenangan zaman remaja. Penulis merakamkannya menerusi petikan syair di bawah.

Kawan ramai luaslah pergaulan,
Cuti sekolah selalu berjalan,
Warung-kedai singgah makan-makan,
Mi rebus dan cendol suatu kegemaran.

Pergi Ipoh ketika kelapangan,
Warung lama tempat persinggahan,
Gerai 'favorite' dekat keretapi
perhentian,
Mi rebus dan cendol tidak ketinggalan.

(Ibrahim Mohd Said, 2009, hlm. 38)

Jika dalam teks *Syair Sultan Azlan Shah, Putera Berjiwa Rakyat*, pengalaman semasa alam remaja Sultan Azlan menikmati makanan, minuman di warung lama hentian keretapi dijadikan sebagai peristiwa dan kenangan. *Syair DYMM Sultan Ibrahim Ibn Almarhum Sultan Iskandar* pula merakamkan peristiwa Sultan Ibrahim pada zaman dewasa ketika baginda bergelar suami dan ayah. Baginda seorang pemimpin negeri yang meminati dan menggemari sukan lasak dan mencabar. Sukan polo antara sukan lasak yang diminati oleh baginda. Sukan ini menjadikan kuda sebagai tunggangan untuk mengejar bola dan menjaringkan gol. Dua kombinasi keintelektualan diperlukan iaitu mengatur strategi mendapatkan bola di tangan lawan serta bijak mengenderai kuda.

Tuanku cekap menunggang kuda,
Namun terjatuh perkara biasa,
Tuanku tabah dan bersiap sedia,
Bak pepatah alah bisa tegal biasa.

(Maskiah Masrom, 2018, hlm. 167)

Lantaran terlalu meminati sukan polo ini, bahaya yang menanti bukan penghalang untuk baginda terus bermain. Akibatnya baginda telah mengalami kecederaan pada bahu dan memberi kesan kepada tulang belakang baginda. Untuk mendapatkan kesembuhan, baginda perlu mendapatkan rawatan di Sydney. Pembedahan dijalankan sebanyak dua kali untuk memastikan baginda sembuh dan pulih sepenuhnya. Pembedahan itu memerlukan pemasangan titanium dalam tubuh. Baginda menjadikan

peristiwa ini sebagai kenangan yang tidak akan dilupakan dan menerimanya dengan penuh reda kerana yakin bahawa setiap sesuatu yang berlaku itu pasti ada hikmah di sebaliknya. Inilah sifat positif yang baginda tanam dalam diri untuk mendepani peristiwa getir.

Tuanku pernah lalui pembedahan,
Sakit di bahu tiada tertahan,
Bermain polo punya penangan,
Tulang belakang menerima kesan.

Tertanam titanium di tubuhnya,
Kesan pembedahan ada kenangan,
Takdir diterima penuh redanya,
Segala ujian Allah ada hikmah-Nya

(Maskiah Masrom, 2018, hlm. 165-166)

Sultan Azlan Shah tidak akan melupakan kenangan dan peristiwa zaman remajanya berbasikal bersama-sama rakannya. Baginda menjadikan aktiviti berbasikal untuk mengisi masa terluang. Seluruh kawasan kampung dan pekan berhampiran lokasi kediaman dijelajahi dengan basikal lombanya semasa cuti sekolah. Baginda akan berbasikal pada waktu petang setelah selesai sesi persekolahn. Dengan berbasikal, baginda bukan sahaja dapat menikmati situasi kehidupan kampung tetapi pada masa yang sama baginda dapat menyihatkan tubuh. Hilir Sungai Terap, Perak Hdryo Power dan Changkat ialah laluan yang menjadi kenangan baginda. Lokasi inilah yang menjadi tempat yang sering baginda tujui dan lalui dengan basikal *racing*nya seperti yang digambarkan dalam syair berikut.

Basikal Tuanku 'racing' baru,
Orang membeli kurang mampu,
Suatu masa ketika dahulu,
Kuranglah orang membeli mampu.

Ketika tuanku zaman remaja,
Berkayuh basikal merentas desa,
Hilir Sungai Terap kayuhan bermula,
Hulu kampungnya masjid juga.

Jalan 'melentin' berkayuh berlegar,
Perak Hydro Power kawasan sekitar,
Keliling kompeni berkayuh berputar,
Terkenal 'melentin' bijian pengeluar.

Letih berkayuh berhenti berehat,
Menunggang semula balik ke Changkat,
Berbasikal beriadah amalan sihat,
Begitulah Tuanku selalu berbuat.

(Ibrahim Mohd Said, 2009, hlm. 40)

Wan Hashim Wan Teh (1989) juga mengakui kebenaran fakta ini. Peristiwa yang membuktikan bahawa baginda sememangnya gemar berbasikal mengelilingi kawasan-kawasan berhampiran di kampungnya. Peristiwa ini menjadi kenangan dan ingatan bukan sahaja kepada diri baginda sendiri tetapi juga kepada khalayak berbasikal. Katanya:

Pada waktu persekolah, Sultan Azlan Shah digambarkan oleh sanak saudara terdekat baginda di Batu Gajah sebagai seorang anak yang 'nakal.' Baginda dikatakan gemar berbasikal. Baginda akan mengayuh basikal lumba

miliknya ke sana-ke mari selepas masa persekolahan. (Wan Hashim Wan Teh, 1989, hlm. 65)

Sendainya Sultan Azlan dengan kenangan basikal *racing*, baginda Sultan Ibrahim pula yang meminati kenderaan berkuasa tinggi dan kenderaan di awan yang perlu baginda kemudi. Berkat ilmu yang ditimba dalam bidang ketenteraan membolehkan baginda mengemudi helikopter dan membuat terjunan. Walaupun begitu, setiap sesuatu yang berlaku semuanya kehendak Yang Maha Esa. Dalam kemampuan dan kebijaksanaan baginda mengemudi helikopter, baginda juga tidak terlepas daripada melakukan kesilapan. Lantaran kesilapan membawa kepada musibah. Walaupun begitu, hanya kesilapan kecil yang berlaku menyebabkan helikopter yang dikemudi mendarat secara tiba-tiba di kandang kuda di Kelab Polo. Kemampuan dan kebijaksanaan baginda mengemudi helikopter menjadikan musibah itu sebagai kemalangan kecil yang tidak berbahaya. Seandainya tanpa ilmu yang baginda miliki pasti helikopter berkenaan akan terhempas dan bisa membawa kepada kematian. Peristiwa hitam ini akan terus menjadi satu kenangan berharga, yang mengajar baginda erti dan makna pentingnya ilmu di dada.

Musibah nahas pernah menimpa,
Tuanku terkandas ke kandang kuda,
Mendarat helikopter secara tiba-tiba,
Peristiwa di Kelab Polo tak dilupa.

(Maskiah Masrom, 2018, hlm. 167)

Kawasan hutan terbakar juga menjadi peristiwa dan kenangan yang tidak mungkin dapat dilupakan oleh baginda Sultan Azlan Shah. Peristiwa ini berlaku ketika baginda dan rakan-rakan sedang mandi-manda di lombong Sungai Terap. Setelah penat berkayuh, aktiviti mandi di lombong menjadi permainan seterusnya. Baginda dapat mendinginkan tubuh yang dibasahi peluh ketika berkayuh. Ketika sedang gembira menikmati kedingingan air lombong, baginda dan rakan-rakan dikejutkan oleh kepulan asap besar yang memenuhi ruang udara. Situasi ini menimbulkan kebimbangan dan ketakutan bukan sahaja kepada baginda dan rakan-rakannya, tetapi juga kepada orang lain yang turut berkunjung dan mandi di lombong berkenaan. Kebakaran ini berlaku berpunca daripada tindakan nakal anak-anak muda membakar lalang. Kebakaran merebak luas memandangkan lalang berkenaan telah layu dan kering.

Adalah pada suatu harian,
Raja Azlan pergi berkelahan,
Sambil berkelah bermandi-mandian,
Lombong Sungai Terap kolam renangan.

Sedang berehat di pinggir lombongan,
Tiba-tiba berlaku suatu kebakaran,
Asap kepulan naik ke awan,
Terkejutlah semua orang berkelahan.

Ada 'jelatang' nakal kelakuan,
Mencucuh bakar lalang kekeringan,
Api besar merebak berjulang-julungan,
Memakan teberau dan peropok
kelilingan.

(Ibrahim Mohd Said, 2009, hlm. 40-41)

Bagi Sultan Ibrahim pula peristiwa kemalangan kereta tidak akan baginda lupakan. Baginda memandu sendiri kereta Lamborghini milik nendanya untuk merasai pengalaman mengemudi kereta berjenama yang harganya mencecah jutaan ringgit. Baginda ingin merasai sendiri kemewahan memandu kereta berkenaan. Bahkan baginda inginkan setiap jenis kenderaan dapat baginda kemudi. Jika helikopter, keretapi, bas, dan motobot dapat baginda pandu, adalah satu kerugian jika Lamborghini tidak dapat baginda kemudi. Namun percubaan kali pertama membawa kepada kemalangan kecil. Kereta mewah itu terbabas secara tiba-tiba. Walau bagaimanapun, tiada kecederaan yang dialami oleh baginda. Peristiwa ini tidak juga memadamkan semangat dan keinginan baginda yang gemar mencuba sesuatu. Kejadian ini ialah satu lagi kenangan yang akan kekal dalam ingatan baginda.

Ketika menaiki kereta nenda,
Lamborghini mahal tidak terkira,
Terdorong perasaaan ingin mencuba,
Kereta terbabas tidak diduga.

(Maskiah Masrom, 2018, hlm. 167)

Begitu juga dengan peristiwa pemergian anakanda Almarhum Abdul Jalil tercinta kerana serangan kanser tidak akan Sultan Ibrahim lupakan. Biarpun begitu baginda sebenarnya mengharapkan kesembuhan buat anakanda. Baginda sering bermunajat kepada Allah agar anakanda baginda disembuhkan sepenuhnya daripada penyakit

kanser yang dideritai. Namun, Allah lebih menyayanginya.

Setiap kali kenangan bertandang,
Air mata Tuanku pasti tergenang,
Diuji gering putera tersayang,
Bukan ujian yang calang-calang.

Doa dipohonkan setiap hari,
Agar kegeringan berlalu pergi,
Menatap putera tak sampai hati,
Semoga putera sihat kembali.

(Maskiah Masrom, 2018, hlm. 168)

Sebagai manusia, Sultan Ibrahim reda menerima pemergian anakanda tersayang baginda Abdul Jalil kembali kepada Yang Maha Esa. Biarpun terlalu sukar untuk baginda terima tetapi inilah peristiwa hitam yang penuh duka. Peristiwa yang tidak akan baginda lupakan dan akan kekal dalam ingatan. Pemergian anakanda baginda akibat serangan kanser yang tidak mengenal usia, pangkat dan kedudukan. Kekayaan juga tidak dapat menebus kesembuhan biarpun baginda miliki wang berjuta. Baginda sedar bahawa kanser merupakan penyakit pembunuh senyap nombor satu manusia. Kenangan bersama-sama anakanda Abdul Jalil akan terus diingati. Perasaan sayang dan cinta terhadap anakanda tidak akan luput dalam ingatan baginda. Justeru, baginda sering mengunjungi makam anakanda dan menghadiahi bacaan ummul kitab dan bacaan surah Yasin pada setiap malam Jumaat.

Masghulnya Tuanku tidak terperi,
Putera tercinta dijemput Ilahi,
Segala kenangan tersimpan di hati,
Kasih tertumpah tiada pengganti.

Tuanku terkesan pemergian putera,
Almarhum Abdul Jalil yang tercinta,
Setiap Jumaat ke makam anakanda,
Doa dipohon fatihah dibaca.

(Maskiah Masrom, 2018, hlm. 168)

Sesungguhnya setiap kejadian yang berlaku ada hikmahnya. Pemergian anakanda baginda Abdul Jalil telah membuka hati dan minda baginda. Jiwa kerakyatan memenuhi ruang jiwa dan baginda sangat terkesan dengan pemergian anakanda tersayang. Justeru, baginda mengharapkan peristiwa dan kenangan hitam ini tidak berulang kepada orang lain. Apatah lagi buat rakyat jelata dan bawahan. Sebagai pemimpin yang bertanggungjawab, baginda menubuhkan Yayasan Kanser. Penubuhan yayasan ini dibina untuk penyelidikan mencari penawar penyakit kanser. Baginda melaburkan jutaan wang ringgit dengan harapan moga penyakit pembunuh senyap nombor satu ini akan ditemukan penawarnya. Untuk kesejahteraan rakyat Johor khususnya dan rakyat Malaysia amnya. Di samping itu, baginda menjadi ikon untuk kempen kesihatan.

Kehilangan putera memberi hikmah,
Yayasan Kanser segera digubah,
Membantu pesakit sentiasa tabah,
Semua dugaan daripada Allah.

(Maskiah Masrom, 2018, hlm. 168)

Sementara itu, Sultan Azlan Shah gemar mengunjungi Stesen Keretapi Kampung Pisang. Stesen ini merupakan lokasi yang menjadi tempat bermain semasa zaman remaja baginda. Di stesen inilah baginda berkejaran dan berlarian bersama-sama rakan. Di stesen ini juga tempat baginda berbual, bersembang dan menghabiskan masa senggang. Baginda dapat melihat asap dan siulan keretapi yang sangat menyenangkan di stesen ini. Di stesen inilah juga Sultan Azlan mengenali erti kehidupan dengan meneliti gelagat manusia. Baginda dapat melihat dengan jelas perbezaan taraf kehidupan bangsa Eropah dengan bangsa Melayu yang dijajah. Bangsa Eropah memiliki keistimewaan kerana kekayaan. Dalam Gerabak Eksklusif Kelas Satu milik bangsa berkulit putih ini kadang kala penumpang bangsa terjajah iaitu bangsa Melayu terpaksa berdiri. Di stesen ini juga baginda dapat menyaksikan sikap negatif bangsanya yang menghabiskan masa berharga dengan hanya berbual-bual sehingga senja.

Hentian keretapi tempat bertumpu,
Tempat bermain Raja Azlan selalu,
Asyik melihat 'passenger' berlalu,
Keretapi 'mel' singgahnya lalu.

Ada gerabak 'eksklusif tertentu,
'Orang Putih' duduk kelas satu,
'Orang Asia' tersisih kelasan begitu,
'Bangsa terjajah dihina selalu.

Azlan bermain di stesen keretapi,
Sewaktu kecil remajaan lagi,

Bersama rakan berkejar berlari,
Bermain berhibur gaya tersendiri.

Raja Azlan duduk seharian melepak,
Bermacam dilihat berbagai nampak,
Menengok manusia berbagai lagak,
Setengahnya duduk seharian berborak.

(Ibrahim Mohd Said, 2009, hlm. 46-47)

Baginda Sultan Ibrahim pula gemar dan minat dalam dunia masakan. Di sebalik kelasakan baginda dengan sukan polonya, dengan gemarkan pemanduan kenderaan berkuasa tinggi, tertanam sikap sukakan dunia kulinari. Justeru, ruang penyediaan makanan di Istana Flinstone dilengkapi oleh deretan buku resepi yang lengkap untuk penyediaan makanan tempatan dan makanan Barat. Dalam kemampuan baginda menunjukkan skil dan kebolehan memasak baik makanan Barat apatah lagi makanan tempatan, turut mengundang satu kenangan. Bukan sahaja sebagai satu peristiwa getir tetapi memberi 1001 pengajaran dalam diri baginda. Bermula dari peristiwa itu, sikap berhati-hati dan berwaspada perlu ada dalam diri baginda walau dalam dunia penyediaan makanan. Sikap tidak berhati-hati dan berwaspada akan mengundang bahaya. Peristiwa tertumpahnya air panas ke tangan tidak akan baginda lupakan. Akibatnya telah meninggalkan tanda melecur sebagai ingatan dan pengajaran.

Pada tempat penyediaan makanan,
Buku resepi di rak berderetan,
Masakan Barat dan tempatan,
Menanti Tuanku membuat rujukan.

Tangan Tuanku pernah tercedera,
Penangan air panas amat terasa,
Kesan melecur tinggalkan tanda,
Diri perlu sentiasa waspada.

(Maskiah Masrom, 2018, hlm. 167-202)

KESIMPULAN

Skop peristiwa dan kenangan menjadi inti perbincangan dalam artikel ini. Kedua-dua sultan daripada dua negeri berbeza melalui peristiwa dalam kehidupan yang berbeza. Peristiwa dan kenangan zaman remaja menjadi inti penceritaan dalam kehidupan Sultan Azlan Shah, Sultan Perak. Mi goreng dan cendol, dua menu yang sangat baginda gemari. Warung lama yang berdekatan dengan hentian keretapi menjadi lokasi persinggahan wajib baginda. Warung lama ini akan dikunjungi baginda sekiranya ke bandar raya Ipoh terutama ketika cuti sekolah bermula. Aktiviti berbasikal bersama-sama rakan di pekan dan kampung untuk mengisi masa terluang menjadi kenangan manis dan bermakna. Stesen Keretapi Kampung Pisang tempat bermain, berkejaran dan berlarian bersama-sama rakan dalam zaman remaja baginda. Di setesen ini juga tempat baginda berbual, bersembang dan menghabiskan masa senggang.

Kehidupan zaman bergelar suami dan seorang ayah pula menjadi pelukisan cerita dalam teks syair negeri Johor. Peristiwa hitam dan kenangan yang penuh teladan serta pengajaran akan menjadi ingatan yang tidak akan dilupakan oleh baginda. Semua peristiwa dan kenangan itu akan terus kekal

dan mekar dalam memori. Semuanya telah membentuk baginda menjadi seorang yang lebih tabah, sabar dan lebih mengerti makna kemanusiaan.

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Materialism and Big-Five Personality Traits Shaping Low-Income University Students' Compulsive Online-Buying Behavior

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ABSTRACT

Despite the immense benefits of online shopping in modern societies, it has also generated some concern about addiction among consumers, particularly the unemployed youth from low-income families. Thus, by conducting a path analysis on quantitative survey data of randomly sampled 439 respondents, this study examines the influence of materialistic behavior and the Big-Five personality traits on the compulsive online-buying behavior of university students from low-income families (the B40 income group). Among the five personality traits, an increase in neuroticism scores, openness to experiences, and conscientiousness was observed to raise the level of materialism significantly. Similarly, materialism, neuroticism, and extraversion exhibited a direct positive influence on the compulsive online-buying behavior of the students. These findings reiterate that individuals with higher neuroticism tend to display less self-regulation or emotion control. In contrast, more extroverted individuals tend to be engrossed with the interactive on-screen platform, which cultivates their obsession with online shopping. Importantly, the mediation test showed that materialistic behavior significantly mediates the effects of

neuroticism, openness to experience, and conscientiousness on compulsive buying. Overall, our findings projected neuroticism as dominating due to its direct and indirect influence on compulsive online-buying behavior in the path model.

Keywords: B40 income group, big-five traits, compulsive buying behavior, low-income household, materialism

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INTRODUCTION

The connectivity and usage of the internet have grown drastically in recent decades, thus facilitating information transfer, social and economic exchanges, and the development of virtual communities (Lissitsa & Kol, 2016). In addition, the complexity of financial services and digital media has made financial knowledge increasingly important (Mokhtar et al., 2020). However, this development has led to the problem of internet addiction with occupational, financial, and academic consequences for users. Since the first decade of this century, affected individuals often suffered mood and anxiety disorders following internet access restrictions (Shapira et al., 2003). The problem becomes serious when engaging in incessant online shopping adversely affects individuals' finance management. This unusual spending habit, often termed compulsive buying, is characterized by consumers' deficit of impulse control over buying, resulting in their obsession with repetitive buying (Ridgway et al., 2008).

Studies generally associate compulsive-buying behavior with mood (Moulding et al., 2017) and consider it a behavioral addiction (Mestre-Bach et al., 2017). Previous researchers have explored the role of Big-Five personality in developing compulsive online-buying behavior. In a meta-analytic review, Kayış et al. (2016) revealed that multiple recent studies have attempted to establish the connection between internet addiction and an individual's types of personality, i.e., the Big-Five personality traits. Similarly, the comprehensive review

of Wang and Yang (2008) proposed that agreeableness, openness to experience, extraversion, and conscientiousness promote people's obsession with online shopping activities. Individuals who score higher in agreeableness are more likely to trust others during online shopping. Extraverted individuals are more optimistic and curious and are thus more likely to be stimulated by interactive online-shopping activities.

Furthermore, Wang and Yang suggested that while people with higher conscientiousness are more organized, cautious, and disciplined, they are more likely to linger and engage in online-shopping activities. In general, empirical findings regarding personality traits and buying behavior are mixed. Otero-López and Pol (2013) found that compulsive buyers exhibit the highest score in neuroticism but the lowest in agreeableness and conscientiousness. However, Mowen (2000) demonstrated that neuroticism and agreeableness are the two personality traits that positively influence compulsive buying. On the other hand, George (2002), Mikolajczak-Degrauwe et al. (2012), and Thompson and Prendergast (2015) reported that agreeableness negatively affects compulsive buying but positively influences neuroticism and extraversion. Generally, all literature supported the superior influence of neuroticism on compulsive buying behavior compared to other personality traits. Similarly, Claes and Müller (2017), in a comprehensive review of buying behavior and temperament personality, suggested that a robust compulsive buying—neuroticism

relationship exists due to compulsive buyers' breakdown in self-regulation and emotion control. People with high neuroticism are more stressed and thus more likely to search for immediate gratification, which could influence their buying behavior (Mestre-Bach et al., 2017).

Buying behavior is associated with materialism or material desires. In a recent review, Moulding et al. (2017) asserted that although compulsive buying is related to the belief that buying goods reduce negative mood and enhances emotional security, buyers definitely perceive goods or materials as unique and essential before purchasing. Materialism refers to a set of centrally held beliefs about the importance of material goods in one's life, the values placed on possessions as a means of enhancing the self, and the use of material possessions to judge one's success and the success of others (Richins & Dawson, 1992). Along with the role of significant personality traits in regulating an individual's buying behavior, many empirical studies have compared the effect of materialistic desire to other social, financial, and psychological factors on compulsive buying. Several studies have established the materialism-compulsive buying association in the general population and clinical sample or high propensity group. For instance, Tarka's (2020) study on young Polish consumers reported that the connection between materialism and compulsive buying is stronger among compulsive buyers than the general or non-compulsive consumers. Additionally, Müller et al. (2014) found a significant

role of depression rather than materialism and temperament in the compulsive buying behavior of treatment-seeking patients. On the other hand, the earlier regression analysis by Müller et al. (2011) revealed that the materialism-compulsive buying connection is more substantial than the depression-compulsive buying relationship in a non-clinical sample or low-propensity group.

Overall, most recent empirical findings established that materialism possesses a more significant effect than other socio-psychological indicators in predicting compulsive-buying behavior in the general population. Despite the severe concern among researchers on internet addiction, Bhatia (2019) and Müller et al. (2011), through regression and path analysis, have confirmed that materialism was stronger than internet addiction in predicting compulsive-online buying. Similarly, in a recent study on undergraduate university students in the USA, Harnish et al. (2019) empirically showed that contrary to various indicators of social anxiety and social support, materialism is a stronger predictor of compulsive buying. The substantial impact of materialism rather than pathological narcissism, which is the extreme need for admiration and recognition of compulsive buying, was established by Zerach's (2016) study on Israeli adults. Harnish and Bridges (2015) corroborated the finding that materialism is more significant than irrational beliefs and narcissism in predicting compulsive buying. With respect to financial indicators, Pradhan et al. (2018) empirically verified that the

effect of materialism but not the frequency of credit card use was significant in exciting the compulsive-buying behavior in India. This finding supported path analysis results revealed by Garðarsdóttir and Dittmar (2012), which verified that materialism was stronger than money-management skills and income and debt levels in predicting compulsive buying among the Icelandic population.

Study Aim

This study examines the links between materialistic desire, the Big-Five personality traits, and compulsive online-buying behavior. As past studies have hypothesized that materialism was more substantial than other socio-psychological variables in determining compulsive buying behavior among the general population, we specifically postulate that materialism mediates the relationship between an individual's major personality types and buying behavior. Besides neuroticism, which significantly influences compulsive buying, other personality traits exhibit ambiguous and non-consistent effects throughout many studies. This thought strongly motivates our consideration of materialistic behavior as a channel through which the Big-Five personality traits influence compulsive-buying behavior.

THEORETICAL FRAMEWORK

Materialism was postulated as an individual value concerning the belief that material possessions in life are essential to happiness and well-being (Aw et al., 2021; Burhan et

al., 2014; Otero-López & Villardefrancos, 2013; Richins & Dawson, 1992; Sabri et al., 2021b; Sabri & Zakaria, 2015). Studies have revealed a strong connection between materialism and individuals' major personalities. For instance, Sharpe and Ramanaiah (1999) empirically showed that materialistic persons score higher on neuroticism but lower on extraversion, openness, agreeableness, and conscientiousness than low materialistic people. In supporting this argument, Watson (2014) highlighted that people with low agreeableness have less control over their materialistic desires. Conversely, neurotic individuals are more prone to develop materialistic impatience to compensate for negative emotions from past experiences. Moreover, recent literature established that materialism is an essential mediator in the connection between compulsive buying and antecedent psychological variables, such as identity confusion (e.g., Claes et al., 2016) and narcissism (e.g., Rose, 2007). From the sociological context, materialistic behavior has successfully mediated the effects of social comparison (e.g., Islam et al., 2018), peer pressure, media exposure, and celebrity endorsement through media and TV advertisements (e.g., Islam et al., 2017) on compulsive buying. These abovementioned findings further support our resolve to scrutinize the mediating role of materialistic desire on the relationship between the five personality traits and compulsive online-buying behavior.

Otero-López and Villardefrancos (2013) examined the function of materialism

in mediating the connection between the Big-Five personality and buying behavior of working Spanish adult women (aged 25–65; mean age = 38.4). They observed that materialism, neocriticism, and conscientiousness directly impact excessive buying, while the other three personality traits (agreeableness, openness, and extraversion) only influence the buying attitude via materialism. Although their study resembles ours, they differ in several ways. First, this study focused on compulsive online buying rather than excessive buying behavior. Second, the study sample consists of Malaysian undergraduate university students (male and female) aged 18–29 years. Third, the respondents were bachelors, unemployed, and dependent on family income or pocket-sized education loans or scholarships to support their livelihood. Moreover, they were from low-income families, i.e., the bottom 40% of the Malaysian income threshold (the B40 household income group).

The B40 refers to households with monthly income below RM4,360 (\approx USD 976). As observed by Sulaiman et al. (2020), the families of most university students in Malaysia fall into this income category. Universities or colleges in Malaysia are mostly concentrated in the city, thus requiring the migration of rural students who are foreign to the affluent urban culture. With university social activities and gatherings contributing to peer pressure (Yüksel-Şahin, 2015), students are easily influenced to accept or give up certain behaviors (Cushman, 2007; Ukwai et al.,

2012). Peer pressure influences students more significantly than parents (Chaplin & John, 2010). Since young and low-income consumers exhibit more assertive compulsive-buying behavior (Ergin, 2010), they can influence other young adults (Benmoyal-Bouzaglo & Moschis, 2010) and compel them to experience new things (Islam et al., 2017). More so, with the separation from families, better access to internet facilities, and greater exposure to online shopping, the university environment and lifestyle can provide greater freedom to students from rural areas.

Figure 1 presents the pathways for the theoretical effects of materialism and Big-Five personality traits on compulsive online-buying behavior. This model is formulated based on possible connections between variables learned from previous studies. For example, a similar model was employed by Otero-López and Pol (2013), who studied the effects of materialism and Big-Five personality traits on excessive buying behavior, rather than compulsive online-buying behavior, which the latter is a more-recent phenomenon or issue in the contemporary digital society. However, in the current study, the effects of Big-Five personality traits and materialism on compulsive online-buying behavior were controlled for the influences of gender, household income level, and time spent surfing the internet, all of which were not considered in Otero-López and Pol's work. These variables are necessary, as previous studies have shown that income and gender greatly influence individuals' financial well-

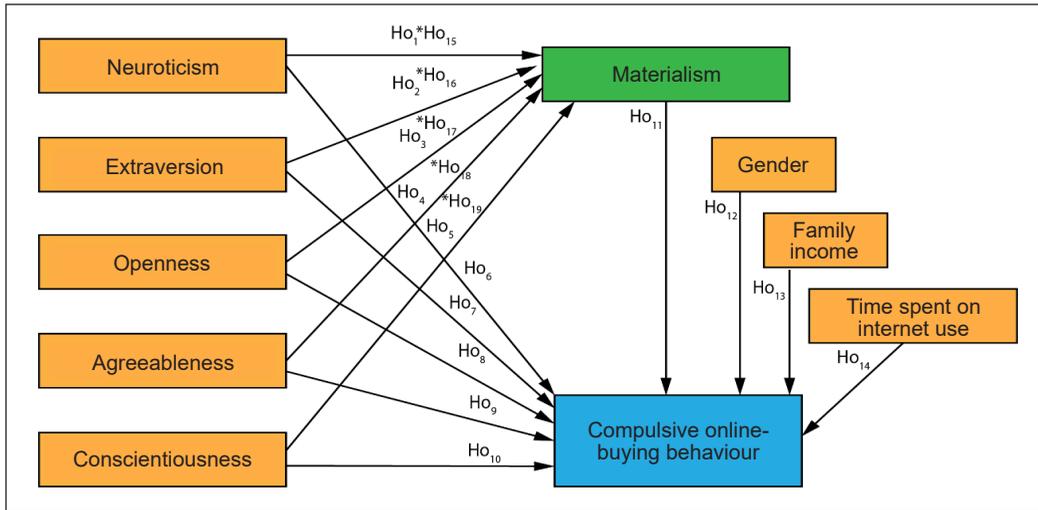


Figure 1. The pathways for the theoretical effects of materialism and Big-Five personality traits on the compulsive online-buying behavior
 Note. * = Mediating effect

being and spending behavior (e.g., Burhan et al., 2015; Hayhoe et al., 2000; Magli et al., 2020; Sabri et al., 2021a, 2022). Likewise, the number of hours of internet use per day largely influences the individuals' addiction to online activities (e.g., Kuss et al., 2013).

Based on the theoretical relationships between variables, this study proposed several null hypotheses as follows:

- Ho₁: There is no significant effect of neuroticism on materialism.
- Ho₂: There is no significant effect of extraversion on materialism.
- Ho₃: There is no significant effect of openness on materialism.
- Ho₄: There is no significant effect of agreeableness on materialism.
- Ho₅: There is no significant effect of conscientiousness on materialism.
- Ho₆: There is no significant effect of neuroticism on compulsive-online buying behavior.

Ho₇: There is no significant effect of extraversion on compulsive-online buying behavior.

Ho₈: There is no significant effect of openness on compulsive-online buying behavior.

Ho₉: There is no significant effect of agreeableness on compulsive-online buying behavior.

Ho₁₀: There is no significant effect of conscientiousness on compulsive-online buying behavior.

Ho₁₁: There is no significant effect of materialism on compulsive-online buying behavior.

Ho₁₂: There is no significant effect of gender on compulsive-online buying behavior.

Ho₁₃: There is no significant effect of family income on compulsive-online buying behavior.

Ho₁₄: There is no significant effect

of time spent on internet use on compulsive-online buying behavior.

H₀₁₅: There is no significant effect of materialism in mediating the effect of neuroticism on compulsive-online buying behavior.

H₀₁₆: There is no significant effect of materialism in mediating the effect of extraversion on compulsive-online buying behavior.

H₀₁₇: There is no significant effect of materialism in mediating the effect of openness on compulsive-online buying behavior.

H₀₁₈: There is no significant effect of materialism in mediating the effect of agreeableness on compulsive-online buying behavior.

H₀₁₉: There is no significant effect of materialism in mediating the effect of conscientiousness on compulsive-online buying behavior.

METHODOLOGY

Participants and Survey Method

Participants in this study were students from Malaysian public universities who belong to B40-income households. Most students in public universities in Malaysia are from families of B40 income category (Sulaiman et al., 2020). Other inclusion criteria include being unemployed, unmarried, and dependent on family income or education scholarships or loans for sustenance.

This study employs a simple random sampling technique. This approach requires little advanced knowledge of the population, and each individual from the population

has a precisely equal probability of being chosen. The individual university student is the sampling unit. A questionnaire survey was distributed randomly through an online platform, specifically Google Forms, and initial 701 responses were obtained.

Respondents underwent a screening process through several checklists in Google Forms to ensure they met all the participant criteria required in this study. Accordingly, 239 responses of participants were observed not from public universities, or they were from households of M40 and T20 rather than the B40 category. At the same time, the other 23 respondents were married and/or involved in a part-time job. Therefore, these 262 respondents were excluded due to violating the inclusion criteria of unemployment. Consequently, the final helpful number of responses was reduced to 439.

Measures

This study used a 5-point Likert-type scale (1 = Strongly Disagree and 5 = Strongly Agree) to measure the compulsive online-buying behavior, materialistic values, and the Big-Five personality traits. The first variable of interest, the compulsive online-buying behavior, comes from Manchiraju et al.'s (2017) Compulsive Online Shopping Scale (COSS), and the research instrument was adapted from Andreassen et al.'s (2015) Bergen Shopping Addiction Scale. It contains 28 items covering seven dimensions that reflect compulsive online shopping, such as salience, mood modification, conflict, tolerance, relapse, withdrawal, and resulting

problems. In the context of compulsive online shopping, salience refers to a person's obsession with a specific pastime activity (i.e., online shopping). Mood modification refers to using internet shopping as a coping mechanism. Tolerance indicates the experience of mood change with time when larger volumes of internet purchasing are required. Withdrawal symptoms are experienced when individuals stop or drastically lowers online purchasing, leading to unpleasant feelings or harmful physical effects. Conflict refers to disagreements that develop in other aspects of life due to excessive internet shopping, for example, interpersonal disputes. Relapse refers to the propensity to revert to past internet-buying habits. Finally, "resulting problems" denote the general symptoms of online shopping withdrawal, such as well-being.

Our second variable of interest is materialism. This study employed the Material Value Scale obtained by Richins (2004), initially designed by Richins and Dawson (1992). The instrument consists of 18 items covering three domains: *possession-defined success*, *acquisition centrality*, and *acquisition as the pursuit of happiness*. The possession-defined success is a condition where materialists prefer to evaluate their own and others' success based on the quantity and quality of their things. Acquisition centrality is where possessions and acquisition are at the core of materialists' existence. Finally, acquisition as the pursuit of happiness accentuates that materialists value goods and their acquisition because they believe they are necessary for their pleasure and well-being.

The Big-Five personality traits predicted materialistic values and compulsive online buying: neuroticism, extraversion, openness, agreeableness, and conscientiousness. The measure used in this study comes from Gerlitz and Schupp's (2005) Big Five Inventory (BFI) and consists of 15 items. The inventory known as BFI-S is a shortened version based on the original inventory proposed by John et al. (1991) and is composed of 44 items.

Moreover, the impacts of materialism and Big-Five personality traits towards compulsive online buying were controlled for the effects of gender (0 = male, 1 = female) and household (parents or guardians) income range per month (0 = Less than RM2500, 1 = RM2500–RM3169, 2 = RM3170–RM 3969, 3 = RM3970–RM4849). Finally, this study incorporated the third control variable, namely the average daily time spent surfing the internet (0 = Less than 1 hour, 1 = 1–2 hours, 2 = 2–3 hours, 3 = 3–5 hours, 4 = More than 5 hours).

FINDINGS

Descriptive Statistics

The descriptive statistics in Table 1 show that 97% of respondents aged between 18 and 25 years, most (75.6%) of whom are female. In addition, more than half (59.5%) of the respondents were from the lowest income category (less than RM2,500), while around 78% of them had spent more than 5 hours per day surfing the internet. Also, roughly one-third (32.8%) of the respondents had purchased items online 3

Table 1
Demographic characteristics of the respondents

Variable	Category	Observations (<i>N</i> = 439)	Percentage (%)
Gender	Male	107	24.37
	Female	332	75.63
Age	18–21	232	52.85
	22–25	192	43.74
	26–29	15	3.42
Race	Malay	264	60.14
	Chinese	142	32.35
	Indian	24	5.47
	Bumiputera	9	2.05
Family income range	Less than RM 2,500 (USD 560)	261	59.45
	RM 2,500–RM 3,169 (USD 560–USD 709)	88	20.05
	RM 3,170–RM 3,969 (USD 710–USD 888)	44	10.02
	RM 3,970–RM 4,848 (USD 889–USD 1,085)	46	10.48
Average daily hours spent on the internet	Less than 1 hour	3	0.68
	1–2 hours	14	3.19
	2–3 hours	22	5.01
	3–5 hours	59	13.44
	More than 5 hours	341	77.68
Number of times of purchasing items online during the last 12 months	1–2 times	100	22.78
	3–5 times	144	32.80
	6–10 times	110	25.06
	11–20 times	39	8.88
	More than 20 times	46	10.48

to 5 times during the last 12 months, while 19.4% had purchased more than 10 times.

Not presented in a table, the average scores for components of compulsive online-buying behavior among the sample (*N*=439) range from moderate to high based on the 5-point Likert Scale. Among the seven components, the participants scored highest for *mood modification* (mean=3.86), followed by *tolerance* (mean=3.82), *resulting problem* (mean=3.48), *conflict* (mean=3.45),

relapse (mean=3.40), *withdrawal symptoms* (mean=3.17) and *salience* (mean=3.17). The average value of the seven components is around 3.48, with their standard deviation values ranging from .80 to .84.

Table 2 presents mean values and correlation matrix for compulsive online buying, materialism, and the five personality traits. The average score for materialism (mean=3.97) was substantially high compared to other variables. Compulsive

Table 2
Correlation matrix for the main variables

Main variable	1	2	3	4	5	6	7
1. Compulsive online buying	1.00						
2. Materialism	.40**	1.00					
3. Neuroticism	.15**	.24**	1.00				
4. Extraversion	.05	.02	-.25**	1.00			
5. Openness	.07	.08	-.03	.13**	1.00		
6. Agreeableness	.07	-.04	-.09*	.12**	.28**	1.00	
7. Conscientiousness	-.01	-.11*	-.18**	.19**	.29**	.43**	1.00
Mean	3.48	3.97	3.15	3.12	3.63	3.67	3.41
Std. Dev.	.81	.65	.88	.95	.68	.68	.67

Note. Mean scores are based on a 5-point Likert-type scale (1 = Strongly Disagree or lowest score, 5 = Strongly Agree or highest score). Significance level: * $p < .05$; ** $p < .01$

buying was observed to be positively and significantly correlated with materialism ($r = .40$; $p < .01$) and neuroticism ($r = .15$; $p < .01$). On the other hand, materialism was positively correlated with neuroticism ($r = .24$; $p < .01$) but negatively associated with conscientiousness ($r = -.11$; $p < .05$). These findings demonstrated that compulsive buying and materialism are strongly related with neuroticism rather than the other personality traits.

Confirmatory Factor Analysis (CFA)

Figure 2 shows the pooled Confirmatory Factor Analysis (CFA) model. This model was executed using IBM SPSS-AMOS software, which generates the value of standardized loadings, constructs correlations, multiple square correlations, and fitness indexes. The results show that all factor loadings are above .70, which satisfies the recommended value suggested by Awang (2012) and Hair et al. (2019). In addition, the reported fitness indexes

fulfilled the criteria set by Hair et al., thus implying that the model is valid.

Discriminant Validity

The discriminant analysis was conducted to determine the discrepancy of each construct applied in the study. In addition, it enlightens the applied researcher on the uniqueness of each construct. Fornell and Larcker (1981) often recommend discriminant analysis across research fields for covariance structure analysis. Table 3 shows that the discriminant validity is achieved, as the value of construct correlations is lower than .85, and the value of square root AVE (diagonal value) is higher than all values of construct correlations.

Convergent Validity and Composite Reliability

Convergent validity and composite reliability were performed to assess the construct reliability and validity. As shown in Table 4, the measurement model is reliable since

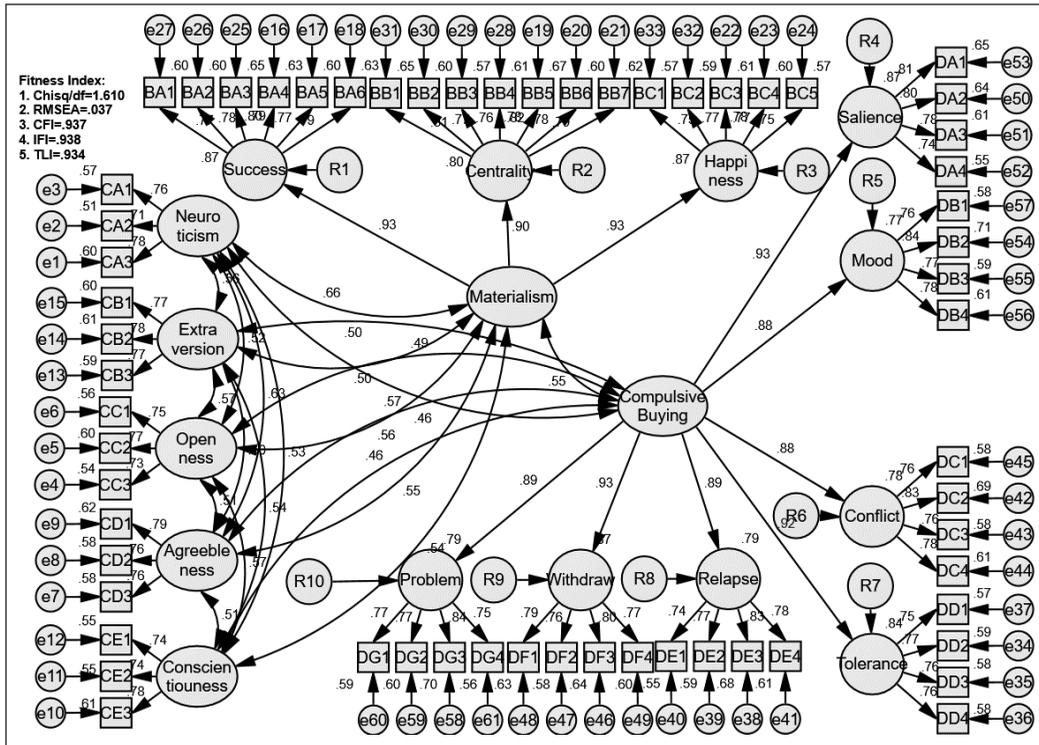


Figure 2. Summary of pooled Confirmatory Factor Analysis (CFA)

Note. Fitness indexes: Chi-sq/df=1.810<3.0; RMSEA=.037<.08; CFI=.937>.90; IFI=.938>.90; and TLI=.934>.90

Table 3
Results of discriminant validity analysis

	1	2	3	4	5	5	7
1. Neuroticism	.747						
2. Openness	.522	.750					
3. Agreeableness	.632	.508	.772				
4. Conscientiousness	.533	.567	.512	.757			
5. Extraversion	.562	.571	.497	.539	.774		
6. Materialism	.660	.562	.553	.537	.496	.919	
7. Compulsive buying	.571	.493	.459	.462	.502	.552	.904

the value of Composite Reliability (CR) is higher than .70 and valid when then the value of Average Variance Extracted (AVE) AVE is higher than .50 (Fornell & Larcker, 1981).

Path Analysis

Path analysis was conducted in this study through structural equation modeling (SEM) using the IBM SPSS-Amos program. Figure 3 shows the results of path analysis

Table 4
Results of convergent validity and composite reliability

			Estimate	Average Variance Extracted (AVE)	Composite Reliability (CR)
Success	<---	Materialism	.930	.844	.942
Centrality	<---	Materialism	.896		
Happiness	<---	Materialism	.930		
Saliency	<---	Compulsive buying	.935	.818	.969
Mood	<---	Compulsive buying	.878		
Conflict	<---	Compulsive buying	.884		
Tolerance	<---	Compulsive buying	.919		
Relapse	<---	Compulsive buying	.889		
Withdraw	<---	Compulsive buying	.934		
Problem	<---	Compulsive buying	.890		
CA3	<---	Neuroticism	.775	.559	.792
CA2	<---	Neuroticism	.711		
CA1	<---	Neuroticism	.757		
CC3	<---	Openness	.734	.563	.795
CC2	<---	Openness	.771		
CC1	<---	Openness	.746		
CD3	<---	Agreeableness	.763	.596	.816
CD2	<---	Agreeableness	.765		
CD1	<---	Agreeableness	.788		
CE3	<---	Conscientiousness	.783	.573	.801
CE2	<---	Conscientiousness	.744		
CE1	<---	Conscientiousness	.743		
CB3	<---	Extraversion	.765	.599	.817
CB2	<---	Extraversion	.782		
CB1	<---	Extraversion	.774		
BA4	<---	Success	.791	.617	.829
BA5	<---	Success	.774		
BA6	<---	Success	.792		
BB5	<---	Centrality	.819	.631	.837
BB6	<---	Centrality	.777		
BB7	<---	Centrality	.786		
BC3	<---	Happiness	.782	.586	.876
BC4	<---	Happiness	.772		
BC5	<---	Happiness	.754		
BC2	<---	Happiness	.767		
BC1	<---	Happiness	.752		
BA3	<---	Success	.804	.616	.828
BA2	<---	Success	.777		
BA1	<---	Success	.773		

Table 4 (continue)

			Estimate	Average Variance Extracted (AVE)	Composite Reliability (CR)
BB4	<---	Centrality	.778	.607	.861
BB3	<---	Centrality	.756		
BB2	<---	Centrality	.774		
BB1	<---	Centrality	.808		
DD2	<---	Tolerance	.767	.578	.846
DD3	<---	Tolerance	.763		
DD4	<---	Tolerance	.760		
DD1	<---	Tolerance	.752		
DE3	<---	Relapse	.828	.609	.861
DE2	<---	Relapse	.768		
DE1	<---	Relapse	.740		
DE4	<---	Relapse	.782		
DC2	<---	Conflict	.828	.615	.865
DC3	<---	Conflict	.764		
DC4	<---	Conflict	.782		
DC1	<---	Conflict	.763		
DF3	<---	Withdraw	.800	.609	.862
DF2	<---	Withdraw	.759		
DF1	<---	Withdraw	.791		
DF4	<---	Withdraw	.772		
DA2	<---	Salience	.799	.614	.864
DA3	<---	Salience	.784		
DA4	<---	Salience	.742		
DA1	<---	Salience	.808		
DB2	<---	Mood	.843	.622	.868
DB3	<---	Mood	.767		
DB4	<---	Mood	.782		
DB1	<---	Mood	.762		
DG3	<---	Problem	.836	.613	.863
DG2	<---	Problem	.772		
DG1	<---	Problem	.770		
DG4	<---	Problem	.750		

predicting the compulsive online-buying behavior after controlling for the effects of gender, family income, and time spent on the internet. About $R^2=38\%$ of the variation in compulsive buying is explained by several

constructs of materialism, neuroticism, openness, extraversion, agreeableness, and conscientiousness, and the control variables. This value was higher than the 34% reported in Otero-López and Villardefrancos's (2013)

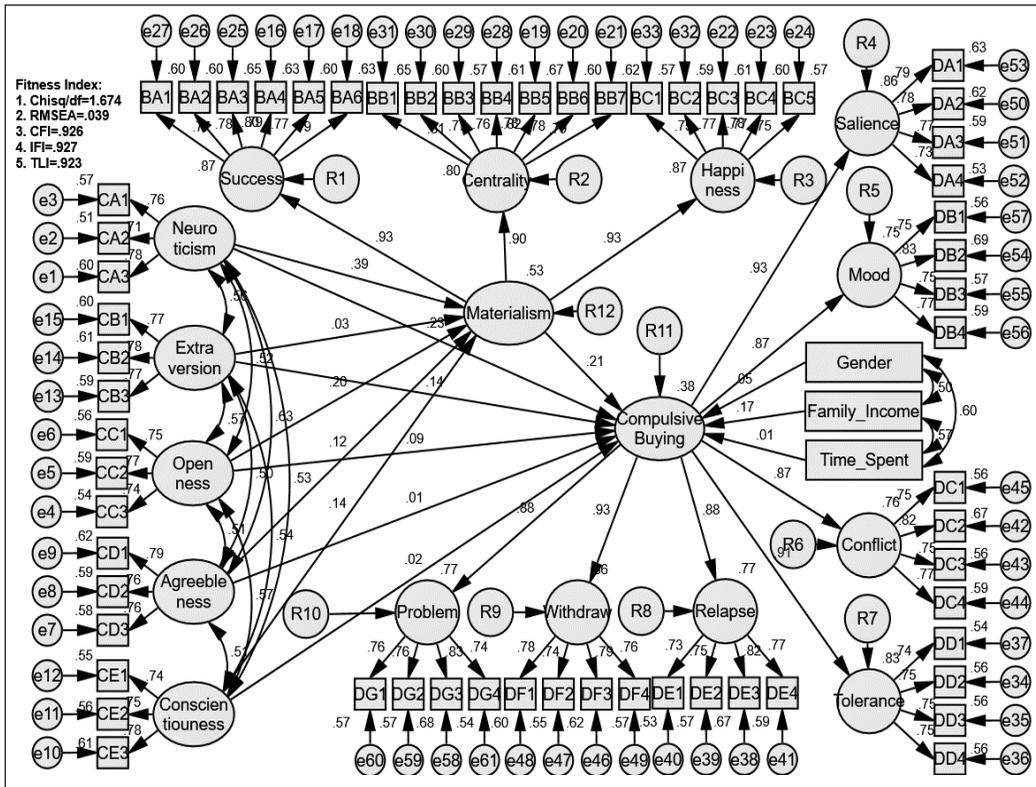


Figure 3. Results of path analysis (i.e., standardized estimates) determining the compulsive online-buying behavior

study on the effects of Big-Five personality traits and materialism on excessive buying behavior. This relatively higher R^2 value may be attributed to the strong impact of the family's income on compulsive buying.

Table 5 shows the standardized effects of variables based on the path analysis. Neuroticism ($\beta=.39$) and openness to experience ($\beta=.20$) strongly predict materialism at $p<.01$ level, while the effect of conscientiousness ($\beta=.14$) was significant at $p<.05$ level. Therefore, this study rejects the null hypotheses H_{01} , H_{03} , and H_{05} . Accordingly, there are significant effects of neuroticism (+), openness to experience (+), and conscientiousness (+) on materialism. In contrast, extraversion and agreeableness

had no significant influence on materialism among the students of low-income families. Thus, this study failed to reject the null hypotheses H_{02} and H_{04} . Compared to other traits, the effect of neuroticism on materialism was the largest, as indicated in Table 3. Similarly, neuroticism ($\beta=.23$; $p<.01$) and materialism ($\beta=.21$; $p<.01$) were the strongest in predicting the compulsive online-buying behavior, followed by the moderate effect of extraversion ($\beta=.14$; $p<.05$). Hence, this study rejects the null hypotheses H_{06} , H_{07} , and H_{011} . Alternatively, there are significant effects of neuroticism (+), extraversion (+), and materialism (+) towards compulsive online buying. Furthermore, this study confirms the non-

Table 5
Standardized coefficients of variables based on the path analysis

	Direction of Effect	Estimate	Standard Error	Critical Ratio	P-value	Conclusion
Materialism	<--- Neuroticism	.392	.075	5.242	.000	Significant (Reject H_{0_1})
Materialism	<--- Extraversion	.033	.076	.435	.664	Not Significant (Failed to reject H_{0_2})
Materialism	<--- Openness	.202	.065	3.111	.002	Significant (Reject H_{0_3})
Materialism	<--- Agreeableness	.124	.068	1.833	.067	Not Significant (Failed to reject H_{0_4})
Materialism	<--- Conscientiousness	.141	.065	2.180	.029	Significant (Reject H_{0_5})
Compulsive Buying	<--- Neuroticism	.227	.080	2.848	.004	Significant (Reject H_{0_6})
Compulsive Buying	<--- Extraversion	.137	.067	2.057	.040	Significant (Reject H_{0_7})
Compulsive Buying	<--- Openness	.094	.075	1.252	.211	Not Significant (Failed to reject H_{0_8})
Compulsive Buying	<--- Agreeableness	.006	.067	.089	.929	Not Significant (Failed to reject H_{0_9})
Compulsive Buying	<--- Conscientiousness	.023	.064	.358	.721	Not Significant (Failed to reject $H_{0_{10}}$)
Compulsive Buying	<--- Materialism	.210	.068	3.098	.002	Significant (Reject $H_{0_{11}}$)
Control Variable						
Compulsive Buying	<--- Gender	.048	.054	.888	.374	Not Significant (Failed to reject $H_{0_{12}}$)
Compulsive Buying	<--- Family Income	.174	.053	3.297	.000	Significant (Reject $H_{0_{13}}$)
Compulsive Buying	<--- Time Spent	.009	.036	.248	.804	Not Significant (Failed to reject $H_{0_{14}}$)

significant effects of openness to experience, agreeableness, and conscientiousness on compulsive buying.

Thus, the null hypotheses H_{0_8} , H_{0_9} , and $H_{0_{10}}$ are rejected. Among the control variables, only the level of family income ($\beta=.17$; $p<.01$) was significant towards the buying behavior, while the effects of gender and times spent on the internet were trivial. Therefore, this study failed to reject the null

hypothesis $H_{0_{12}}$. This finding contradicts most previous studies, which found that, on average, 90% of women were prone to compulsive buying (see Dittmar, 2005). However, the result supports Sabri et al. (2020) and Sereetrakul et al. (2013), who found that gender does not affect individuals' financial behavior. Moreover, the significant direct effect of household income allows this study to reject the null hypothesis $H_{0_{13}}$.

Alternatively, there is a significant effect of household level of income on compulsive online buying. This finding is consistent with Hayhoe et al. (2000), who found that family income regulates people’s spending habits. Finally, this study failed to reject the null hypothesis H_{014} , which contradicts Kuss et al. (2013), who found that the number of hours of internet use per day greatly influences individuals’ addiction to online activities.

Next, this study conducted a mediation test using bootstrap analysis recommended by Preacher and Hayes (2008). The 1,000 resampling with maximum likelihood estimator was utilized to generate parameter estimates for each path. The results of the indirect and direct effects of variables are shown in Table 6. The mediation analysis was focused on neuroticism, openness, and

conscientiousness, as these three variables were significant towards materialism. We found that neuroticism has the largest indirect impact ($\beta=.082; p<.01$) on the level of compulsive buying, while openness to experience and conscientiousness were only significant at $p<.05$ level. Therefore, this study rejects the null hypotheses H_{015} , H_{017} , and H_{019} . Alternatively, the mediation analysis thus confirmed that materialism significantly mediates the relationships between compulsive online-buying behavior and the three major personality traits (neuroticism, openness to experience, and conscientiousness). Accordingly, the effects of neuroticism, openness to experience, and conscientiousness on compulsive online buying are partially channeled through the effect of materialism as a mediator.

Table 6
The results of the mediation test of materialism using 1,000 bootstrap resampling

	Pathways of Relationships				
	Neuroticism → Materialism → Compulsive buying	Extraversion → Materialism → Compulsive buying	Openness → Materialism → Compulsive buying	Agreeableness → Materialism → Compulsive buying	Conscientiousness → Materialism → Compulsive buying
Indirect estimate (β)	.082	.006	.042	.026	.030
Indirect <i>p</i> -value	.006	.544	.012	.079	.017
Indirect significance	Yes	No	Yes	No	Yes
Mediation effect	Yes	No	Yes	No	Yes
Conclusion	Mediation effect was significant (Reject H_{015})	Mediation effect was non-significant (Failed to reject H_{016})	Mediation effect was significant (Reject H_{017})	Mediation effect was non-significant (Failed to reject H_{018})	Mediation effect was significant (Reject H_{019})

Note. The extraversion and agreeableness were non-significant on materialism. Consequently, their non-significant indirect effects on compulsive buying are presented but not discussed.

These findings are consistent with Otero-López and Pol (2013), who found that materialism neuroticism and openness to experience influence excessive buying behavior through the effect of materialism. However, the current study found the significance of materialism in mediating the effect of conscientiousness towards compulsive buying, which this connection was non-significant in Otero-López and Pol (2013). For extraversion and agreeableness, their direct results towards materialism were non-significant (see Table 5). For that reason, materialism did not significantly mediate the relationship between compulsive online buying and extraversion and agreeableness. Consequently, this study failed to reject the null hypotheses H_{016} and H_{018} . These results contradict Otero-López and Pol (2013), who verified the significant mediation effects of materialism on the relationships between excessive buying and the two personality traits, specifically extraversion and agreeableness.

DISCUSSION

This study examined the relationship between materialism and Big-Five personality traits and their effects on compulsive online-buying behavior. Path analysis was conducted to establish materialism as the channel for the five major personality traits influencing compulsive buying. One of the uniqueness of our sample is its inclusion of young respondents from the low-income family category. Furthermore, all the respondents were university or college students who were unemployed and

unmarried, thus allowing us to examine the online-buying behavior of Malaysian youth with limited financial sources. Regardless of their socioeconomic status, these young, vibrant students are thought to be influenced by the swift development of information technology and mobile-centric marketplace, which availed them access to online-purchasing activities.

In this study, the average value of the seven components of compulsive online-buying behavior was moderately high (around 3.48) based on the 5-point Likert scale. The results of path analysis demonstrated that neuroticism and materialism had strong positive effects on the level of compulsive buying, contrary to the moderate positive impact of extraversion. Furthermore, materialism was vital in the path model, as it significantly mediates the effect of specific personality traits (neuroticism, openness to experience, and conscientiousness) on buying behavior. In other words, through materialism, the three personality attributes affect the compulsive buying behavior of the respondents. These findings somewhat differed from those of Otero-López and Villardefrancos (2013), which found that materialism mediates the effect of agreeableness, extraversion, and openness on the excessive buying behavior of working adult women. The discrepancies in the results could be due to differences in the study sample and its characteristics. Moreover, the current study's findings were controlled for the strong effect of family income on buying behavior, which was ignored in the study of Otero-López and Villardefrancos.

Neuroticism substantially influenced compulsive online-buying behavior directly and indirectly via materialism. This finding is consistent with that of previous research, such as George (2002), Mikolajczak-Degrauwe et al. (2012), and Thompson and Prendergast (2015), which discovered that high neuroticism and extraversion positively influence compulsive behavior. However, this current study did not find a negative effect of agreeableness as observed in those studies. The strong impact of neuroticism on buying behavior is unquestionable because neurotic people frequently experience an emotional breakdown due to their lack of emotional control and thus turn to compulsive buying for instant gratification or emotional security (Claes & Müller, 2017; Mestre-Bach et al., 2017; Moulding et al., 2017). In contrast, individuals with higher extroversion are more likely to attain satisfaction from the on-screen interactive activity. Consequently, neuroticism and extraversion can be said to promote online-shopping activities.

Notably, the current study corroborated the strong positive influence of materialism in predicting compulsive online-buying behavior. This finding is comparable with those established in Müller et al.'s (2011) and Tarka's (2020) studies on a non-clinical sample. Similarly, respondents in the current study comprised the general population and had a moderately high average score of compulsiveness. Therefore, one can conclude that individuals' materialistic desire stimulates their compulsive online-purchasing behavior. Furthermore, except

for extraversion, which only has a moderate direct effect on buying behavior, the current study verified that neuroticism, openness to experience, agreeableness, and conscientiousness had smaller *p*-values (with larger critical ratios) towards materialism rather than compulsive buying. These discoveries advance materialism as a valuable route for the indirect influence of certain personality traits on compulsive online-buying behavior.

CONCLUSION

Generally, individuals who enjoy electronic commerce are likely to become addicted to online shopping. Through a path analysis, this study investigated the connection between materialistic behavior and the Big-Five personality traits and their influence on compulsive online buying behavior. In summary, it was established that increase in the scores of neuroticism, openness to experiences, and conscientiousness significantly raised the level of materialism among the youth in Malaysia, particularly those from B40 household income families. Furthermore, materialism, neuroticism, and extraversion have a direct positive effect on compulsive online-buying behavior. These findings strengthen the conception that neurotic individuals tend to experience less self-regulation or emotion control.

In contrast, extroverted individuals tend to be interested in the interactive on-screen platform, which encourages their incessant online-shopping activities. Notably, the mediation test showed that materialistic behavior significantly mediates the effects

of neuroticism, openness to experience, and conscientiousness on compulsive buying. Hence, the impact of neuroticism can be regarded as domineering, as it directly and indirectly influences compulsive online-buying behavior in the path model. Therefore, this study strongly recommends that future researchers consider materialistic behavior when studying the buying behavior in the population.

Based on the study's findings, the government needs to provide consumer and financial education for youth in the B40 income category. This necessary action can be implemented through mass media and formal education, such as at the college or university level, to encourage responsible behavior and rational attitudes among youth when they use digital platforms for online shopping. Consumer and financial education allow low-income households to make rational and informed decisions related to online purchasing activities. Indeed, the combination of values and knowledge can undoubtedly generate positive behavior among vulnerable youth. If implemented consistently, this government action would help individuals become more aware of sustainable consumer behavior practices in the global digital market. In this way, consumer and financial education programs will prevent excessive and compulsive online-buying behavior among the B40 youth and, simultaneously, prevent the negative consequences of personality traits on their financial well-being.

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Developing Conceptual Change Text on the States of Matter and Their Changes for Prospective Elementary School Teachers

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ABSTRACT

This research aims to develop a Conceptual Change Text (CCT) for prospective elementary school teachers' understanding of states of matter and their changes through text to fulfill valid, practical, and effective criteria about the Basic Concepts of Science, henceforth *TPK-MP (Teks Perubahan Konseptual Materi dan Perubahannya)*. This research employs research and development of the 4D model: define, design, develop, and disseminate. The instruments included observation, questionnaire, interview guidelines, validation papers, and concept mastery test. The data obtained were analyzed according to validation, practicality, and effectiveness criteria. The results showed that conceptual change text on states of matter and their changes and CCT developed was valid with an average score of 95.32 (very valid), practical at the score of 3.56 (good), with the students' positive response at 86.74%; and effective in which the conceptual changes were at 57.40% (medium). TPK-MP can improve understanding of concepts and reduce misconceptions about the matter

and its changes. It can be used to develop conceptual change text for other science materials. Further research is needed to determine the effectiveness of lectures using TPK-MP as an independent study material.

Keywords: Conceptual changes text (CCT), prospective elementary school teachers, states of matter and their changes

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INTRODUCTION

Science is one of the subjects that students learn from the elementary school level (SD/MI). The knowledge of the natural phenomenon and their scientific explanation are essential aspects that students need to know during science lessons (Merino & Sanmarti, 2008; Merritt et al., 2007). Furthermore, the materials studied in science subjects in elementary school are the fundamental knowledge important for biology, physics, and chemistry. Therefore, it is essential to equip the students with a basic understanding of science and free them from misconceptions about studying further.

In a university with Elementary Teacher Education Study Program (PGSD, *Pendidikan Guru Sekolah Dasar*) or Madrasah Ibtidaiyah Teacher Education Study Program (PGMI, *Pendidikan Guru Madrasah Ibtidaiyah*), the topic of states of matter and their changes is learned in the subject of Fundamental Concept of Science (3 or 4 credit semester). Therefore, the students are required to master the concept of science and, later, teach the materials. Knowledge (formal education) and science teachers' experience have influenced how they teach the materials (Chan & Elliot, 2004; Hashweh, 1996). Science not only shows the phenomenon's existence but also highlights its understanding. Therefore, the essential aim of science education is to develop the students thinking ability in certain contexts (Oliveras et al., 2013; Zoller et al., 2000). The teachers need to understand what exists in the student's cognitive structure to develop scientific

concepts (Talanquer, 2006). Teachers who possess the ability to teach well can help students understand. Learning depends on the teachers' knowledge of the materials of the current topics. In this case, the primary responsibility lies on the teachers, but it does not mean that the other factors are ignored, such as reference books and other teaching tools (Banawi et al., 2021; Karagöl & Bekmezci, 2015; Lating, 2014).

The results from a few research (Gomez-Zwiep, 2008; Keeley, 2012; Subramaniam & Harrell, 2013; van Garderen et al., 2012) showed that content knowledge of elementary school science teachers had a direct and indirect influence on classroom practices. Besides, the teachers who mastered the content knowledge were more ready to develop the lessons in line with conceptual changes (Heller et al., 2003). Taştan et al. (2008) reported that CCT could improve students' understanding and achievement. Therefore, the content knowledge of prospective science teachers became the predictor of the learning quality and its results. Relations between science teachers' content and professional knowledge determine the teachers' method of teaching certain concepts to help students learn (Subramaniam & Harrell, 2013). Besides, there was a significant relationship between prospective teachers' points of view and attitudes toward their professional teaching (Uyghun & Kunt, 2014). Therefore, the teachers' perspective would influence them in implementing their tasks and roles in their workplace.

Science learning in schools, especially for the students, is typically implemented in specific ways to facilitate the development of their mindset (minds-on) and hands-on (Prasetyo, 2010), and it is expected to consider the constructivism principles (Widodo & Nurhayati, 2005). Elementary school teachers are essential in developing students' understanding of science concepts because they are the classroom teachers. Classroom teachers must deliver almost all the lessons, including Science and other lessons in the class (Banawi et al., 2017; Han & Brown, 2013; Ornstein & Levine, 2008). For this reason, prospective elementary school teachers must be equipped with a good understanding of the materials and their nature. They are expected to guide the students to acquire a scientific conception of states of matter and their nature. The students' correct understanding will become valuable resources when they reach a higher education level. Therefore, a good understanding of the topic will be fundamental when learning chemistry. As understood, the objects learned in chemistry are about the material (nature, structure, and composition) and their changes (Chang, 2010; Geller, 2003). Therefore, a good concept of understanding the object, substance, and particle will be the resource to understand the science lesson (Johnson, 1998).

However, ironically, the results of previous research illustrate that the basic science concepts have not been fully understood by teachers, including the idea of states of matter and their changes (Banawi et al., 2017, 2018; Jaelani, 2015; Sopandi et

al., 2017). At the previous level (Elementary School, Junior High School, and Senior High School), the research participants attended lessons that discussed the states of matter and their changes and participated in the science group lectures (Basic Science Concepts and Elementary School Science Learning).

The description above concludes that the provision of material mastery on states of matter and their changes requires more effort, both aimed at teachers and prospective elementary school teachers. Education in the university is one of the critical stages in providing direction for students' future. Therefore, students must be assisted, and the solutions must be tailored according to the problems and needs of the students (Karagöl & Bekmezci, 2015). Thus, when teaching, teachers must conduct diagnostics to help identify and facilitate learning needs and improve students' learning (LaFrance, 1994).

Material sorting in teaching is essential because teaching materials can be used as a reference and source of information for students in learning. The content of the discussion scope is not only to make many pages and increase production costs, but it is necessary to sort out the material by selecting which are important and which are just additional knowledge (Hadiyanti & Widodo, 2015). Many ways can improve students' mastery of concepts, including using a conceptual change approach strategy.

Conceptual Change Text (CCT) is an alternative strategy that can be selected to improve students' understanding through existing stages by using concrete examples

and scientific explanations of the material discussed (Guzzetti et al., 1997; Ozkan & Selcuk, 2015). Lesson planning and presenting students' misconceptions about certain materials or teaching materials will assist teachers in delivering a more meaningful learning process, including the states of matter and their changes. Unfortunately, there are few conceptual change texts related to science material. Further, conceptual change text for this concept has yet to be available, which is the reason that underlies the need for this research to be carried out—even though there are systematic examples of conceptual change text (Syuhendri, 2017).

In response to this, the author developed a conceptual change text for prospective elementary school teacher students, i.e., the Conceptual Change Text–Material and Changes (*Teks Perubahan Konseptual–Materi dan Perubahannya*, henceforth *TPK-MP*). It is important to prepare elementary school science teachers who can reform their teaching (Kier & Lee, 2016). Furthermore, a strategy for planting the right concepts is needed to replace the old concepts in teaching because misconceptions are difficult to correct even though they have followed formal education (Yürük & Eroğlu, 2016). Therefore, teachers must be ready with a good understanding and make reasonable plans to deliver teaching materials to improve students' understanding and learning outcomes. In line with that, Utari (2010) states that the process of debriefing prospective science teachers needs to be considered and improved.

Therefore, this paper raises the problem, i.e., how to develop the *TPK-MP* that can improve prospective primary teachers' concept understanding and meet the valid, practical, and effective criteria.

LITERATURE REVIEW

One strategy to approach a concept change is the Conceptual Change Text (CCT). In conceptual change texts, students are explicitly asked to provide predictions for a situation and then misconceptions and scientific explanations of the problem (Aydin, 2012; Balci, 2006; Chambers & Andre, 1997; Özmen & Naseriazar, 2018; Şahin & Çepni, 2011). Conceptual change texts determine students' misconceptions, clarify their reasons, and explain why they are wrong using concrete examples (Guzzetti et al., 1997; Ozkan & Selcuk, 2015). CCT can be integrated with the Predict-Observe-Explain (POE) technique (Ültay et al., 2015).

In the CCT, there need to be stages of conceptual change (Setyaningrum & Sopandi, 2015). There are several forms of CCT: three, four, and five elements or stages. The three elements include (1) identifying misconceptions in students through asking questions, (2) presenting students' alternative concepts and scientific explanations, and (3) presenting scientific concepts with examples (Aydin, 2012; Cetingul & Geban, 2011; Demircioglu, 2009; Özmen, 2007; Ültay et al., 2015). The four elements are (1) identification of students' prior knowledge through presenting a phenomenon, (2) presenting the limitations

of concepts that students have that do not apply to certain phenomena, (3) presenting evidence, and (4) presenting scientific concepts that can explain the phenomena previously presented (Beerenwinkel et al., 2011; Setyaningrum & Sopandi, 2015). The five elements include (1) identification of possible student errors, such as pictures and questions where students are asked to write down the answers, (2) a table presentation of common misconceptions and wrong answers, such as moody emoticons, (3) serving correct answers with explanations in the form of text or text explanations with videos, accurate answer tables with smiling emoticons, (4) student assessments and opinions about the content of reading, and (5) follow-up questions or situations and problems new (Çepni & Çil, 2010; Ozkan & Selcuk, 2015). The Material and Changes CCT model developed in this study synthesizes the above models. The synthesis results of the CCT model are used as an accompanying element in the process of changing concepts (from misconceptions to true conceptions), as until now, there is no standard form of conceptual change text (Setyaningrum & Sopandi, 2015).

METHODS

Model Development

This research used Borg and Gall's (1989) Research and Development model and was summarized into Four-D: define, design, develop, and disseminate (Thiagrajan et al., 1974). However, this research did not reach dissemination. Therefore, preliminary studies and small-scale trials

were conducted in one of the PGSD study programs in West Java involving one class with 45 students. For the comprehensive test, the participants were fourth-semester students in the PGSD study program in the Moluccas, applying two classes (33 and 30 students, respectively). The location was selected because the study program had never conducted similar research.

Procedure

The research procedure is as follows. First, define the activities carried out include (1) a literature study related to relevant learning theories, teaching materials, circulating CCT forms, relevant research results, and related regulations in higher education (Permenristekdikti Nomor 44/2015 concerning National Standards for Higher Education, SNPT) (Menristekdikti, 2015), (2) field studies by observing lecture activities in class, and (3) needs analysis through distributing questionnaires and interviews to students and lecturers. Then, the design includes (1) designing CCT on the states of matter and their changes, which could improve students' conceptual mastery according to the results of previous research, (2) writing the CCT on the states of matter and their changes framework adapted to the research that had been carried out, and (3) making the first CCT on the states of matter and their changes product and its validation sheet. Developing activities are as follows: (1) expert validation of the CCT on the states of matter and their changes; (2) improvement of the initial product, improvement and rewriting CCT

on the states of matter and their changes, (3) small-scale feasibility trial, (4) product revision based on the results of trials and discussions with validators, (5) wide scale feasibility test, (6) analysis of improving student learning outcomes on the material being studied, (7) significant product improvements, and (8) rewriting CCT on the states of matter and their changes as the final product. The final product is a product that is socialized and can be widely used (Ghufron et al., 2007). The flow or procedure of development research is shown in Figure 1.

Data Collection

Research instruments were in the form of tests and non-tests. The test was carried out at the beginning (pretest) and the end

of the lecture (posttest). Non-test consisted of observation sheets, questionnaires, a list of interview questions for lecturers and students, and validation sheets.

Data Analysis

Quantitative and qualitative techniques were used for data analysis according to the type of data obtained. Furthermore, it was concluded in a detailed description (Sulastri et al., 2022) and was directed to answer the research questions above. The model criteria (CCT on the states of matter and their changes) were developed to fulfill validity, practicality, and effectiveness (Nieveen, 1999). Validity was by looking at the percentage of validation scores. Validation (TPK-MP) by three validators

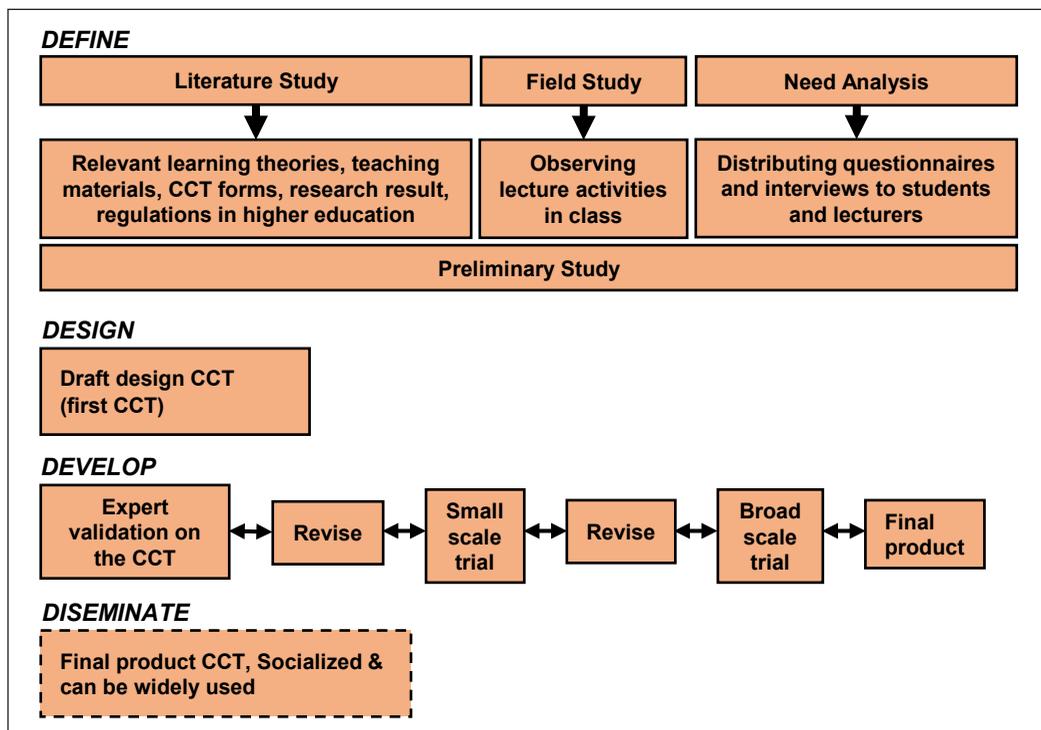


Figure 1. CCT research and development flow

uses a validation sheet covering aspects: characteristics, presentation, and scope of CCT. These aspects are assessed by giving a score (4, 3, 2, 1) and giving notes. For example, the characteristics of CCT include the presented text that reveals misconceptions in students, raises dissatisfaction, cognitive conflict, intelligible, plausible, and fruitful conditions. Practicality by looking at the score of the implementation of the model in the classroom, and effectiveness by looking at the positive responses of students and learning outcomes (Lestari et al., 2015). The normalized gain formula from Meltzer (2002) was used to calculate the increase in students' understanding. Normalized gain = (posttest score–pretest score)/(maximum possible score–pretest score). With the N-gain category, namely: Low ($g < 0.30$), Moderate ($0.30 \leq g < 0.70$), and High ($g \geq 0.70$).

The validity of expert validation (involving one chemist, one chemical education expert, and one guidance and counseling expert) employed the following formula. Validity = (total validation score of

3 validators/maximum total score) x 100%. Matching the validity criteria (Akbar, 2013 as quoted in Fatmawati, 2016), namely: Invalid (01.00–50.00%), Less valid (50.01–70%); Quite valid (70.01–85.00%); and Very valid (85.01–100%). The formula calculated the implementation of the Semester Study Plan (RPS). RPS implementation value = (total score obtained)/(number of items assessed). Furthermore, the values obtained were classified, namely: Very less (0.0–1.5), Less (1.6–2.5), Good (2.6–3.5), and Very good (3.6–4.0). Student response analysis was conducted by looking at the percentage score from filling out the questionnaire. The responses are considered positive in learning if the percentage gets closer to one hundred percent (Prasetyo et al., 2007, as cited in Fatmawati, 2016). Classification of learning outcomes (cognitive) is very low, low, high, and very high (Mardapi, 2008) with a range of scores: Very low (0–20); Low (21–40); Medium (41–60); High (61–80); and Very high (81–100). The summary of the instruments and data analysis techniques is shown in Table 1 below.

Table 1
Instrument and data analysis technique

No.	Aspects	Activity	Resource	Analysis Technique
1	Validity of instrument	<i>judgment expert</i>	Instrument validation results by three experts	Percentage, criteria matching, detailed description
2	Practicality	Implementation in class	Implementation questionnaire, observation sheet, interview results (student responses)	RPS implementation score, criteria matching, detailed description
3	Effectivity	Pretest, Post-test	Pretest and posttest scores of students in the experimental and control group	N-gain scores, descriptive statistics, inferential statistics (two ways Anova) matching the classification of learning outcomes.

RESULTS

Preliminary Study

The development began with a preliminary, and six pieces of information were obtained. First, there were two forms of reading materials related to the states of matter and their changes: independent study materials or dictating and training modules for the classroom teacher for Science published by the Ministry of Education and Culture (Pusat Pengembangan Profesi Pendidik, 2012). Second, the results of previous research illustrated that the concept of science, including the concept of states of matter and their changes, has not been fully understood by teachers and prospective teachers well (Banawi et al., 2017, 2018; Jaelani, 2015; Sopandi et al., 2017). Therefore, it was necessary to improve this understanding. Third, conceptual change theory, constructivism theory, social learning theory, and POE strategies could be utilized in the development. Fourth, CCT on the states of matter and their changes in equipment needed to be harmonized with higher education regulations (Permenristekdikti Nomor 44/2015 concerning SNPT). Fifth, the results of the field study revealed that there were teaching materials for Basic Science Concepts in which they explained the states of matter and their changes within the duration of one meeting. However, no unique reading material, such as CCT, was on the states of matter and their changes. Therefore, of course, this was an opportunity for the CCT to be made. Sixth, the needs analysis results using a need assessment

questionnaire show that the teaching materials provided by the lecturers had helped the students to learn certain concepts (64.43%) but had not been maximized (100%). In addition, the results of student and lecturer interviews show a need for the students and lecturers to teach materials that could provide sound knowledge on the concept of states of matter and their changes.

Until now, there is no standard form of conceptual change text (Setyaningrum & Sopandi, 2015). However, there are four things in CCT: (1) the existence of phenomena that are presented to determine students' prior knowledge and misconceptions, (2) the situation is presented to show that the student's concept is not following the existing phenomena, (3) proving the wrong concept from students, and (4) the existence of scientific concepts that are presented to explain the phenomena discussed. The preliminary research results were then used as material in designing the draft of the product (Hanif, 2020).

The draft of CCT on the states of matter and their changes (TPK-MP) was a synthesis of several forms of CCT. The discussion covered four topics: discontinuous properties of matter, dynamic properties of particles, particle properties, and changes in the shape of objects. The contents for each topic presentation included (1) presenting questions that supported the occurrence of cognitive conflicts. The students were asked to write answers to the questions on the sheet provided, (2) presentation of the misunderstanding table with negative emotions, (3) the content of the material was accompanied by the presentation of correct

examples or activities and concepts, (4) student's assessment of the content of the reading text that was appropriate/not and the writing of student's personal opinion, (5) follow-up questions to test students' understanding, and (6) the presentation of the correct answer table with smiley emoticons.

The design of CCT on the states of matter and their changes (TPK-MP) was embodied in the initial printed form of Draft-1. Three validators or experts validated the draft. One improvement note was related to the order in which the four topics' indicators were presented. Some of the validation results are summarized in Table 2.

The mean score of the states of matter and their changes (TPK-MP) validation is described in the previous section (data analysis). Based on the validity criteria, the Draft-1 result met the valid criteria. However, according to the notes and suggestions from the validator, revisions were made to the draft to obtain Draft-2, which could be used for small-scale testing (Rudibyni et al., 2020).

Trials of Small Scale

Small-scale trials were carried out in one class (45 students) and were carried out in 4 meetings. In addition, one observer was involved in observing lecture activities. Several notes on the trial results include the student's understanding of specific topics that needed to be strengthened and emphasized in the CCT on the states of matter, their changes and the reading materials. Reading materials are required to be distributed to students after the initial test for reading assignments. Furthermore, improvements were made, including its presentation, to increase the final test score and N-gain from the previous (0.40). The average of each element is then matched with the categories or criteria in the data analysis section. Several test results are summarized in Table 3.

Trials of Broad Scale

The existing improvement notes were used to revise Draft-2 to obtain Draft-3 for wide-scale testing. The comprehensive test was

Table 2
Validity of CCT on the states of matter and their changes

Material	Average	Category
CCT on the states of matter and their changes	95.32	Very valid
1. Characteristics Text of Conceptual Changes	94.05	Very valid
2. Material presented	92.59	Very valid
3. Content coverage:	99.31	Very valid
a. Suitability	100	Very valid
b. Scope	97.92	Very valid
c. Depth	100	Very valid

Table 3
Trials of small-scale CCT on the states of matter and their changes

No.	Materials	Average	Category
1	Learning completion	3.93	Very good
2	Learning assessment	3.52	Good
3	Students' response	87.50%	Positive
4	Learning outcome		
	a. Final score test	69.04	High
	b. N-gain	0.40	Medium
	c. Conception Changes	55.16%	Medium

carried out in two classes: experimental (33 students) and control (30 students), with 4 meetings in each class. In addition, three observers were involved in observing lecture activities. Some of the results of large-scale trials are summarized in Table 4.

The practicality was analyzed from the results of the observation sheet by looking at the score of the lecture implementation and the lecture’s assessment. Table 4 shows that the average score for each aspect is 4.00 (outstanding category) and 3.56 (the suitable type). Thus, based on Nieveen’s (1999) criteria, the CCT on the states of matter and their changes in Draft-3 met the practicality criteria because lecturers could use it in classroom learning.

The effectiveness of CCT on the states of matter and their changes (TKP-MP) model used in learning needs to be assessed.

The effectiveness was done by looking at the test results (pretest and posttest) and interviews. The final test results of the experimental class showed a score of 43.09 (Medium category). This value was 18.98 points higher than the initial test, with an average N-gain of 0.26 (Low category). According to the results of statistical tests (two ways ANOVA) using SPSS software version 20, the experimental group’s increased understanding (N-gain) was significantly different ($p = 0.001$) from the control group’s increased understanding. The experimental class learning outcomes category was moderate based on the classification of cognitive abilities made by Mardapi (2008). The score of the practical class was higher when compared to the control. Interviews with randomly selected students were conducted at the end of the lecture to determine the response to the developed CCT on the states of matter and their changes. From the interviews, information was obtained that CCT on the states of matter and their changes supports students’ understanding. The following are some of the results of the interviews (Table 5).

Thus, the developed CCT on the states of matter and their changes met the effectiveness criteria to improve the students’ understanding. It was evident that the developed CCT on the states of matter and their changes (Draft-3) could improve the student’s learning outcomes and had fulfilled all existing aspects, namely validity, practicality, and effectiveness.

Table 4
Trials of broad-scale of CCT on the states of matter and their changes

No.	Materials	Average	Category
1	Learning completion	4.00	
2	Learning assessment	3.56	Good
3	Students’ response	86.74	Positive
4	Learning outcome		
	a. Initial test (experiment)	24.11	Low
	b. Initial test (control)	22.79	Low
	c. A score of the final test (Experiment)	43.09	Medium
	d. A score of the final test (control)	26.84	Low
	e. N-gain (experiment)	0.26	Low
	f. N-gain (control)	0.20	Low
	g. Conception Changes (experiment)	57.40%	Medium

Table 5
Some results of interviews with students

Researcher	: Question-1	Did this course reduce your scientific fallacies?
	: Question-2	Does the course Materials and Its Changes using Conceptual Change Text improve your mastery of concepts?
	: Question-3	From your experience, what activities are not possible in this lecture?
Student-1	: Answer-1	Much less when talking about the wrong concept.
	: Answer-2	Yes. Mastery of concepts can be increased.
	: Answer-3	All activities are still possible to be carried out.
Student-2	: Answer-1	Yes. My confusion about the concept of science diminished.
	: Answer-2	Yes, through this course, I can improve my concept mastery of materials and their changes.
	: Answer-3	All activities can be carried out.
Student-3	: Answer-1	Much less.
	: Answer-2	Yes. I get improvement from this course.
	: Answer-3	Mastering all materials.

DISCUSSION

Based on the research and development carried out, the Conceptual Change Textbook–Matter and Its Change (TPK-MP) has been tested valid, practical, and effective for improving the understanding of prospective elementary school teachers. The book can be used as reading material to strengthen students' understanding of the basic science concepts in the *PGSD* (Primary School Teacher Education) or *PGMI* (Islamic Primary School Teacher Education) Study Programs. It is in accordance with the results of previous research (Dewi, Sudiatmika & Wiratma, 2019) using a modified development model resulting in science learning tools about matter classification and its changes that are valid, practical, and effective. The resulting CCT can be an example of developing CCT in other science materials. CCT is valid and practical in remediating

misconceptions and effectively increasing students' understanding of concepts.

Teachers practically use CCT in classes with many students, where teachers are likely to deal with only some misconceptions and each individual. Teachers can use CCT as additional teaching material and ask students to read it (several times) during lessons or outside class hours (Caroline et al., 2018; Syuhendri et al., 2021). TPK-MP is a moment of study and educational practice for prospective elementary school teacher students. The learning activities they have gone through are learning experiences (Hasim, 2019). The understanding given through reading materials is expected to equip students with the substance of science teaching materials with better knowledge of prerequisites and learning strategies. Understanding the prerequisite concepts is the basis for understanding the next concept (Johnson, 1998; Oktaviana, 2017). The good

experiences they get are a provision for them so that they are expected to be able to imitate and apply the learning that has been experienced before in other situations. The study results indicate that educators tend to imitate and apply learning that has been experienced before in the workplace so that they will apply their professional knowledge and good experience in teaching science practice to students in the future (Chan & Elliott, 2004; Hashweh, 1996; Subramaniam & Harrell, 2013).

Like a development product, besides having advantages, it also has limitations (Sari et al., 2019). The resulting CCT on the states of matter and their changes has several limitations, such as the activities carried out are only aimed at improving the prospective elementary school teacher students' concept mastery, and not all the material discussed in the book can be mastered by all students. There is also the possibility of information bias among the students because the control and experimental groups are in the same study program. In addition, the experimental activities, or activities in the CCT on the states of matter and their changes, require the support of practicum equipment according to the number and needs of students and lecturers.

One of the weaknesses of CCT on the states of matter and their changes in its implementation is that not all students can master the concepts discussed in the book well. Therefore, it is necessary to sort out the material; the material that students have not mastered is further strengthened and discussed more deeply to overcome this. The

content of reading materials must be sorted out to separate those which are important and need to be presented from those which are just additional knowledge (Hadiyanti & Widodo, 2015; Kurniansyah & Irianto, 2021). In addition, implementing CCT on the states of matter and their changes takes a long time. Dual Modes programs can be used to overcome this problem. Lectures combine scheduled face-to-face and independent learning by studying the text at home (Kadarohman & Nurihsan, 2008; Wardani et al., 2019). The limitations of practicum equipment can be overcome through the presentation of practicum or laboratory activities in the form of learning videos, as it can save observation time and minimize the use of tools/materials on a large scale (Izzania & Widhihastuti, 2020). Efforts to avoid information bias among students can be made through a blinding system, not telling the research subjects (student groups) to which group they belong. The blinding process is applied in research to prevent bias (Sapeni et al., 2020). In addition, the control and experimental groups are in the same study program and accreditation level but in different locations.

CCT on the states of matter and their changes is a conceptual change approach strategy to increase students' understanding of the material and its changes. In the text, there are concrete examples to (1) convince students that they have misunderstandings about scientific facts in the material discussed, (2) remediate misconceptions, and (3) provide scientific explanations of existing situations (Guzzetti et al., 1997;

Ozkan & Selcuk, 2015; Syuhendri et al., 2021). Conceptual change does not come entirely from reading the text alone but also from the reader's interaction with the textual information in the reading. The construction of meaning occurs when the information presented in the text is related to their knowledge and/or through the modification of knowledge by students (Adi & Oktaviani, 2018). Through the use of CCT on the states of matter and their changes, there is a process of conceptual change as a series of assimilation and accommodation processes for the students. The process of conceptual change starts with the process of assimilation and then accommodation. For the accommodation process toward conceptual change to occur, four supporting conditions are needed: dissatisfaction, intelligible, plausible, and fruitful (DIPF) (Okotcha, 2018; Posner et al., 1982; Rohmah & Virtayanti, 2021; Syuhendri et al., 2019).

Lecturers must act as mediators and facilitators to support the concept change process. This role can be realized in learning with a constructivist approach, as follows: (1) expressing students' initial conceptions by asking them to express their opinions about a concept, (2) facilitating group discussions so that there is cognitive conflict and motivation to seek explanations of opinion differences, (3) assisting students in constructing their conceptions, (4) directing and providing opportunities for students to apply their conceptual understanding (Saguni, 2019). In addition, CCT on the

states of matter and their changes in its application can be integrated with other models, strategies, or learning methods, such as Predict-Observe-Explain (POE), Refutation Text, and the Read-Answer-Discuss-Explain-Create (RADEC) Learning Model, to name a few.

It is reasonable considering that the text of conceptual change begins with a predictive question, where students predict answers with their existing knowledge. Predictions made by students are supported by an appropriate observation activity, followed by students explaining answers related to scientific questions (Ültay et al., 2015). Refutation text was chosen considering that there is a significant relationship between reading activities (reading comprehension) with science learning achievement and attitude (Celikten et al., 2012; Thacker et al., 2020). The RADEC learning model is proposed to be integrated with the CCT on the states of matter and their changes, considering that there are reading and other stages that support the creation of concept changes. This learning model can improve the quality of the process and learning outcomes (Siregar et al., 2020; Sopandi et al., 2019; Sukardi et al., 2021).

Therefore, further research that can be carried out can be related to other topics in science; different research subjects; learning outcomes, e.g., related to critical thinking skills and creative thinking; and or the form of presentation of TPK-MP for elementary school teachers through in-on model training (Slameto et al., 2017).

CONCLUSION

TPK-MP, developed using research and development methods, meets the criteria of being practical, valid, and effective in increasing concepts mastery of prospective elementary school teachers on the topic of matter and its change. However, like product development, apart from having advantages, it also has limitations. To improve the concept mastery of prospective elementary school teachers, TPK-MP can be used as material for lectures on Basic Science Concepts in the *PGSD* and *PGMI* Study Programs. However, this research also implies that further research is needed to determine the effectiveness of lectures in a dual-mode system that uses TPK-MP as an independent study material.

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Soft Skills and Graduate Employability: Evidence from Malaysian Tracer Study

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ABSTRACT

Recent trends in graduate employment have raised concerns among higher education providers and other stakeholders. Issues concerning the soft skills gap have been constantly raised so that industries and universities can adopt various initiatives to address this situation. In addition, employment has shifted from production to service, increasing the importance of soft skills. This study aims to map graduates' soft skills and employment status after graduation. The Ministry of Higher Education repository was used to select 100,413 first-degree graduates who had completed their studies. Logistic regression analysis created the graduate employability predictive model, which yielded a 77% accuracy. The findings show that 85.5% of graduates were employed during data collection. The predictive model suggests that graduate employability status is affected by factors such as gender, family income, the field of study, MUET, CGPA, internship, entrepreneurship course, working experience, communication skills, analytical skills, teamwork, positive values, and general knowledge.

Keywords: Employability, graduate, higher education, logistic regression, soft skills

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INTRODUCTION

Graduate employability remains a major concern for all stakeholders, including graduates, higher education providers, industry representatives, and policymakers. The mismatch between graduate and employer expectations focuses on the skill gap, job mismatch, and expected salary. Mismatches in higher education create

barriers for fresh graduates to be employed by industry, making the transition from campus life to the labour market difficult for some. On the other hand, some industries in the labour market require work-ready graduates with employability skills to thrive and meet industry demand.

Malaysia's Economic Outlook 2021 reported that the graduate unemployment rate remained stable between 2001 and 2019, ranging from 3.1% to 4.0%. However, the mismatch rate increased from less than 15% to more than 25% during the same period. Malaysia had an unemployment rate of 3.3% in February 2020, a marginal increase from 3.2% the previous month (Department of Statistics Malaysia, 2020). There has never been a detailed study of this increase, such as unemployment by education level.

According to the Malaysia Education Blueprint 2015–2025 (Higher Education), Malaysia aspires to raise the employability rate of fresh graduates from 75% to more than 80% by 2025 (Ministry of Higher Education [MOHE], 2020). Employability is defined as “a set of achievements—skills, understandings and personal attributes—that makes graduates more likely to gain employment and be successful in their chosen occupations, which benefits themselves, the workforce, the community and the economy” (Yorke, 2006, p.8). Yunus (2007) defined employability as an individual's ability to fit into a specific job or have attitudes that allow them to be employed. In short, employability is the ability to get a job and a career in the

market by demonstrating skills that allow employers to hire candidates with a degree of performance and confidence.

The labour market has placed a high value on graduates' hard skills gained through university courses. Standardised achievement tests, such as CGPA, categorise graduates as employed or unemployed. However, as the market has shifted from a production to a service-oriented economy, the value of soft skills such as communication, leadership, problem-solving and critical thinking has increased. This study attempts to map graduates' soft skills and employment status after graduation to understand how soft skills affect employability. The findings can help policymakers in higher education identify graduates who lack these skills and suggest ways to improve them.

LITERATURE REVIEW

It is critical first to understand the factors that influence graduate employability to address the issue more effectively. According to Nagaraj et al. (2014), tertiary education achievement allows new employees to stay longer in the workplace, contributing to better human capital. On the other hand, Seng (2018) asserted that most fresh graduates prefer lower-paying jobs, with 49.4% of public university graduates earning less than RM2000 per month, which is below the expected income for bachelor's degree graduates.

According to Ibrahim and Mistree (2019), academic knowledge is no longer sufficient in today's challenging

economic environment; students must also learn employability skills to improve their employment prospects. Teng (2019) contended that universities must incorporate soft skills into their curricula to improve graduate job readiness. According to Succi and Canovi (2020), students should polish their soft skills to adapt to a changing labour market and improve their employability because employers value soft skills over other skills that may be ineffective or deemed unnecessary. Juhdi et al. (2007) claimed that communication skills, English proficiency, information and communication technologies (ICT) skills, the ability to work in a team, leadership skills, interpersonal skills, problem-solving skills, and the ability to adapt to different situations are critical for graduates to be employed. Their research also found that while many graduates have strong technical skills, many lack soft skills. For example, graduates may struggle to complete their tasks at work if they lack adequate communication skills. Due to the skills required for job seekers, the government has taken several approaches to address the issue of graduates' lower competitiveness by providing more skills-oriented programmes to increase their soft skills to meet employer demands. It aligns with intending to produce skilled graduates who can meet the needs of employers who value practical skills over academic achievements.

Individual entrepreneurial orientation positively and significantly impacts perceived employability, including innovativeness and proactivity (Koe, 2019). Risk-taking characteristics, on the other hand, do not

affect perceived employability. Therefore, graduates should instead be encouraged to cultivate an entrepreneurial mindset to become job creators and entrepreneurs. In a study of Malaysian graduates, Jamaludin et al. (2019) emphasised the importance of entrepreneurial skills, encompassing basic skills, thinking skills, personal qualities, workplace competencies, and entrepreneurship. However, according to their findings, graduates frequently lack decision-making and leadership skills, which concerns some employers.

Regarding English proficiency, most Malaysian universities accept SPM (secondary school level) and Malaysia University Entry Test (MUET) results as entry requirements for any degree level. Other English tests, such as TOEFL, IELTS, and TPE, are used to assess English proficiency among Malaysian graduates at higher-educational institutions. According to Nafi (2011), English proficiency at the SPM and MUET levels is important in determining graduate employability. From a business standpoint, Ting et al. (2017) discovered that most employers prefer to hire employees with strong communication skills. In short, good communication skills can lead to more job opportunities and career advancement.

Graduate academic achievement and qualifications are significant factors in graduate employability (He et al., 2021). Pinto and Ramalheira (2017) highlighted the significance of academic achievement and extracurricular activities in obtaining employment. On the other hand, Hossain et al. (2018) discovered that employers

place a higher value on theoretical and practical skills than on grades. The 2016 Canadian Census of Population reported that seven out of ten engineering and computer and information science graduates have highly sought-after skills, while most biological sciences graduates work in science and technology (Statistics Canada, 2017). Due to the advancement of technology and innovation, students majoring in ICT have a higher employability rate than those majoring in humanities, arts and social sciences, journalism, and information (Organization for Economic Co-operation and Development [OECD], 2017). Razak et al. (2014) discovered that social sciences, business, and law graduates are disproportionately unemployed, despite the number of graduates entering the job market in these fields being relatively high year after year.

The World Employment and Social Outlook—Trends 2020 reported that female labour force participation in 2020 was moderate at 49% worldwide, while male labour force participation was around 74%. According to the report, gender stereotypes that emphasise women's primary caregivers and men's roles as sole breadwinners remain deeply embedded in some regions (International Labour Organization [ILO], 2020). Jayasingha and Suraweera (2020) found that graduate employability is influenced by gender, professional qualifications, English proficiency, training and experience, and soft skills. This study supports Piad's (2016) findings that gender is one of the most important predictors of graduate employability. Another factor

identified as important in determining graduate employability is an internship or work experience. Graduates can benefit from their training experience by gaining exposure and practising their skills in a real-world setting. According to Passaretta and Triventi (2015), graduates with work experience throughout tertiary education have a higher employment rate after graduation. Other factors, such as family income, are not investigated, but according to Hossain et al. (2018), graduates from lower-income households have a higher unemployment rate.

Understanding the factors influencing graduates' successful transition into the labour market is critical to understanding the mismatch between industry and higher education institutions. This study aims to identify the significant factors influencing the employability of fresh graduates in Malaysia to provide some insights for future graduates to understand better the factors required while seeking a job appropriate for their educational level. The findings will be useful evidence in addressing the problem of fresh graduates being overqualified for certain jobs and ensuring that employers can recruit graduates with the skills required by their respective industries to thrive in the knowledge-based economy of the 21st century.

METHODOLOGY

Logistic Regression

The probability of graduates being employed or unemployed must be classified to understand the employment situation

among graduates. Logistic regression or logit analysis is only appropriate for two-class or binary classification. The popularity of logistic regression stems from its robustness and ease of interpretation. The dependent variable of logistic regression has two outcomes: 0 denotes “unemployed”, and 1 denotes “employed.” The logistic regression has the following assumptions: (1) the dependent variable is dichotomous, (2) the dependent variable and independent variable have a linear relationship, (3) the data is free of outliers, and (4) the independent variables are not multicollinear. Furthermore, probability and odds are interrelated. Probability is the ratio of the number of outcomes to the total number of possible outcomes, while odds is the ratio between two outcomes. Probability ranges from 0 to 1, whereas odds range from 0 to infinity. The formula for probability P and odds are as follows:

$$P = \frac{\text{Number of outcomes}}{\text{Total number of possible outcomes}},$$

$$0 \leq P \leq 1$$

$$\text{Odds} = \frac{P(x)}{1 - P(x)}, 0 \leq \text{Odds} \leq \infty$$

An odds ratio is the ratio of two odds. It is a statistic that assesses the strength of a relationship between two events. An odds ratio of less than 1 has a negative logit value, while an odds ratio greater than 1 has a positive logit value. For example, an odds ratio of 1 (corresponding to the probability of 0.5) has a logit value of 0. An odds ratio

of less than 1 negatively affects the predictor variable, while an odds ratio greater than 1 implies a positive relationship when the predictor variable increases by a unit. The formula for the odds ratio is as follows:

$$\text{Odds Ratio} = \frac{\text{Odds}(A)}{\text{Odds}(B)} = \exp^{\beta}$$

Logit is the natural log of odds, which is linear in independent variables and parameters. Positive logit indicates that the odds favour the event, while negative logit indicates that the odds are against an event occurring. The formula of the estimated logit model is as follows:

$$\ln\left(\frac{P(Y = 1)}{1 - P(Y = 1)}\right) = \beta_0 + \hat{\beta}_1 x_1 + \hat{\beta}_2 x_2 + \hat{\beta}_3 x_3 + \dots + \hat{\beta}_n x_n$$

where the probability of Y is

$$P(Y = 1) = \frac{e^x}{1 + e^x}$$

Logistic regression determines whether a given data instance belongs to class 0 or 1. The goodness-of-fit of the model must be measured before it can be built. Some tests used to determine how well a model fits the data are the likelihood ratio, McFadden's R^2 , Nagelkerke's R^2 , confusion matrix, and receiver operating characteristic (ROC) curve.

Data partitioning was implemented prior to model development in this study. Data partitioning is splitting data into two sets: training and testing. A training set is used to explore the data features and create

a model, while a testing set measures the developed model's overall performance (accuracy). Data partitioning is often used when dealing with large or high-volume datasets, and the ratio of the training set to the testing set is frequently higher.

Source of Data

This study used secondary data¹ from the Ministry of Higher Education Malaysia's 2019 Graduate Tracer Study, which focused on public and private higher education

institutions in Malaysia. The questionnaire was made available online for graduates to complete as part of their graduation requirements. A total of 100,413 first-degree graduates were selected for the study. The probability of graduates being employed (1) or unemployed (0) must be quantified to understand the graduate employment situation. Table 1 lists the variables used in the analysis. The data was divided into two sets at a 70:30 ratio, with 70% of the data going into the training set and the remaining 30% going into the testing set. According to Nguyen et al. (2021, p.15), this ratio gives the best results in terms of predictive model ability.

¹ This data was obtained in January 2020, with permission from Seksyen Data, Bahagian Perancangan dan Penyelidikan Dasar, Kementerian Pengajian Tinggi, for the sole purpose of research.

Table 1
Variables of interest in the study

Variable	Classification	Description
Gender	(1) Male (2) Female	Gender of the graduate
Family income	(1) ≤ RM500 (2) RM501–RM1000 (3) RM1001–RM1500 (4) RM1501–RM2000 (5) RM2001–RM2500 (6) RM2501–RM3000 (7) RM3001–RM5000 (8) > RM5000	Graduate total family monthly income as the socioeconomic level
Field of study	(1) Art & Social Sciences (2) Sciences (3) Technical (4) ITC ¹ (5) Education	Graduate's field of study.
MUET	(1) Band 1 (2) Band 2 (3) Band 3 (4) Band 4 (5) Band 5 (6) Band 6 (7) Others	The Malaysia University English Test (MUET) measured English proficiency level.
CGPA	Scale from 2.00 (lowest) to 4.00 (highest)	The graduate academic performance was measured using Cumulative Grade Point Average (CGPA).

¹ Information Technology & Communication

Table 1 (continue)

Variable	Classification	Description
Internship	(1) Yes (2) No	Whether the graduate had attended the internship/ industrial training.
Entrepreneur	(1) Yes (2) No	Whether the graduate had attended the entrepreneurship course.
Work during study	(1) Yes (2) No	Whether the graduate had worked part-time or full-time during their study.
Communication skills	Score from 1 (Not satisfied at all) to 5 (Extremely satisfied)	Graduate satisfaction level on their abilities in communication skills acquired during study time.
Creative and Critical thinking	Score from 1 (Not satisfied at all) to 5 (Extremely satisfied)	Graduate satisfaction level on their abilities in creative and critical thinking skills acquired during study time.
Problem-solving skills	Score from 1 (Not satisfied at all) to 5 (Extremely satisfied)	Graduate satisfaction level on their abilities in problem-solving skills acquired during study time.
Analytical skills	Score from 1 (Not satisfied at all) to 5 (Extremely satisfied)	Graduate satisfaction level on their abilities in analytical skills acquired during study time.
Teamwork	Score from 1 (Not satisfied at all) to 5 (Extremely satisfied)	Graduate satisfaction level on their teamwork or group work abilities during study time.
Positive Value	Score from 1 (Not satisfied at all) to 5 (Extremely satisfied)	Graduate satisfaction level on their practice of positive values during study time.
General knowledge	Score from 1 (Not satisfied at all) to 5 (Extremely satisfied)	Graduate satisfaction level on their exposure to general knowledge and current issues acquired during study time.
Employment status	(1) Employed (0) Unemployed	Graduate employment status at the time of the data collection.

RESULTS

As shown in Table 2, most (85.5%) of fresh graduates were employed by graduation day, about six months after they finished their studies, while only 14.5% were unemployed.

Table 3 summarises the demographics of the graduates in the 2019 Graduate Tracer Study. Male graduates account for 37.9% of the study's participants, while

female graduates account for 62.1%. Regarding family income, more than half of the graduates come from families earning less than RM3000 per month. Most graduates (51.1%) received degrees in art and social sciences, with 21.6% and 14.3% receiving degrees in technical and sciences, respectively. Regarding English proficiency, 37.7% received a Band 3 in MUET, while only 0.03% received a Band 6. Also, 22.6% of graduates used English proficiency tests other than MUET. 46% of graduates have prior work experience, and 87.1% have completed an internship or industrial training programme during their studies. Only 19.6% of the graduates enrolled in entrepreneurship courses during their studies.

Table 2
Distribution of graduate employability status

	Frequency	%
Employed	85851	85.5
Unemployed	14562	14.5
Total	100413	100.0

Table 3
Descriptive statistics for categorical variables

Variable	%	Variable	%
Gender		MUET	
Male	37.9	Band 1	2.4
Female	62.1	Band 2	17.2
		Band 3	37.7
Total family monthly income		Band 4	16.1
Less than RM500	4.7	Band 5	4.0
RM501 to RM1000	9.2	Band 6	0.03
RM1001 to RM1500	11.7	Others	22.6
RM1501 to RM2000	11.0		
RM2001 to RM2500	10.2	Work while studying	
RM2501 to RM3000	11.9	Yes	46.0
RM3001 to RM5000	22.1	No	54.0
More than RM5000	19.2		
		Industrial training	
Field of study		Yes	87.1
Art & Social Science	51.1	No	12.9
Science	14.3		
Technical	21.6	Entrepreneurship course	
ITC	8.9	Yes	19.6
Education	4.1	No	80.4
Total	100.0	Total	100.0

Table 4 shows the descriptive statistics for continuous variables. Most graduates earned a CGPA of between 2.00 and 4.00, with an average of 3.23. The graduate's perceived ability to work in a team or group has the highest average soft skills score of 4.31, followed by the inculcation and practice of positive values, with an average score of 4.28. According to the results, most graduates were satisfied with their soft skills level.

The predictive model was built using binary logistic regression to identify the significant factors that map to graduate employability. Table 5 shows that 13 of

the 15 predictor variables are statistically significant in predicting graduate employability status. According to the predictive model, factors such as gender, family income, the field of study, MUET, CGPA, internship, entrepreneurship course, working experience, communication skills, analytical skills, teamwork, positive values, and general knowledge all play a role in graduate employability status. Graduates with higher confidence, teamwork ability, and problem-solving skills were more employable, as evidenced by odds ratios greater than 1. Other soft skills, such as creative and critical thinking,

Table 4
Descriptive statistics for continuous variables

Variable	Min	Max	Mean	Std. Deviation
CGPA	2	4	3.23	0.401
Communication skills	1	5	4.05	0.720
Creative and critical thinking	1	5	4.06	0.710
Problem-solving skills	1	5	4.10	0.692
Analytical skills	1	5	4.09	0.700
Teamwork	1	5	4.31	0.683
Positive values	1	5	4.28	0.689
General knowledge	1	5	4.11	0.737

Table 5
Coefficient summary statistics

	Odds Ratio	Estimate	Std. error	z value	Pr (> z)	
(Intercept)	1.789	0.582	0.052	11.128	9.15E-29	***
Female	1.070	0.067	0.009	7.098	1.27E-12	***
RM501–RM1000	0.968	-0.032	0.021	-1.539	0.124	
RM1001–RM1500	0.763	-0.270	0.021	-13.038	7.42E-39	***
RM1501–RM2000	0.663	-0.411	0.021	-19.424	4.82E-84	***
RM2001–RM2500	0.583	-0.539	0.022	-24.567	2.85E-133	***
RM2051–RM3000	0.569	-0.564	0.021	-26.454	3.27E-154	***
RM3001–RM5000	0.491	-0.712	0.020	-35.410	1.21E-274	***
> RM5000	0.454	-0.790	0.021	-37.602	0.000	***
Science	1.223	0.202	0.013	16.106	2.33E-58	***
Technical	0.902	-0.103	0.012	-8.772	1.76E-18	***
ICT	0.701	-0.355	0.017	-20.441	7.15E-93	***
Education	0.577	-0.550	0.019	-28.937	4.08E-184	***
Band 2	0.738	-0.303	0.019	-15.707	1.36E-55	***
Band 3	0.677	-0.390	0.019	-20.506	1.92E-93	***
Band 4	0.630	-0.462	0.022	-20.814	3.24E-96	***
Band 5	0.515	-0.663	0.042	-15.962	3.24E-57	***
Band 6	0.319	-1.143	0.304	-3.763	0.00017	***
Others	0.725	-0.322	0.020	-16.098	2.64E-58	***
CGPA	0.694	-0.365	0.011	-33.018	4.51E-239	***
No Internship	0.532	-0.631	0.014	-45.729	0.000	***
No Entrepreneur course	0.939	-0.063	0.011	-5.650	1.61E-08	***
Not working during study	1.694	0.527	0.009	58.572	0.000	***
Communication skills	0.851	-0.162	0.008	-19.106	2.27E-81	***
Creative and critical thinking	0.982	-0.018	0.012	-1.543	0.123	
Problem-solving skills	1.010	0.010	0.013	0.812	0.417	

Table 5 (continue)

	Odds Ratio	Estimate	Std. error	z value	Pr (> z)	
Analytical skills	0.941	-0.060	0.010	-6.354	2.10E-10	***
Teamwork	1.143	0.134	0.011	12.397	2.70E-35	***
Positive values	1.261	0.232	0.011	20.371	3.01E-92	***
General knowledge	0.854	-0.157	0.009	-17.211	2.20E-66	***

Note: Significant Code: 0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ‘

analytical skills, general knowledge, and communication skills, have an odds of less than 1, indicating that they contribute less to graduates’ employability. Even if some skills contribute less to employability, having these skills is still critical for graduates.

The odds ratio indicates that female graduates were more likely to be employed than male graduates. Graduates from higher-income families were more employable than graduates from lower-income families. Science graduates were also 1.22 times more likely to be employed than arts and social sciences graduates. Regarding working experience, graduates who did not complete

internships or enrol in entrepreneurship courses were less likely to be employed. Surprisingly, the odds ratio shows that graduates with no working experience were 1.69 times more likely to be employed than those with working experience.

Table 6 displays the results of four tests used to assess the goodness-of-fit of the model used in this study. The model is statistically significant as the observed difference in goodness-of-fit with likelihood ratio *p*-value is 0.000. However, the model has low predictive power as most coefficients of determination (R^2) values are on the low side. The confusion matrix in Table 7 depicts the model’s performance in predicting the target variables based on the testing set. The model correctly predicts 77% of the observations. For example, employed graduates were correctly predicted under the employed category with a sensitivity of 99.9%. In comparison, only 0.4% of unemployed graduates were correctly predicted as being unemployed, which often refers to the model’s specificity.

Table 6
The model’s goodness-of-fit statistics

	Statistics
Likelihood Ratio	0.000
McFadden’s R^2	0.055
Cox and Snell R^2	0.058
Nagelkerke’s R^2	0.088

Table 7
Confusion Matrix

Observed	Predicted		Percent Correct
	Employed	Unemployed	
Employed	10961	12	99.9%
Unemployed	32824	12	0.4%
Percent Correct	77.0%	50.0%	77.0%

Another predictive model used in this study is the ROC curve, which is generated by plotting the true-positive rate against the false-positive rate at various threshold settings. Figure 1 displays the ROC curve that indicates the trade-off between the rate at which employed graduates were correctly predicted against the rate at which unemployed graduates were incorrectly predicted. The area under the curve (AUC) of this ROC curve is 0.658, indicating that the model adequately discriminates between the two target variable categories since the AUC value is between 0.6 and 0.7 (Yang & Berdine, 2017).

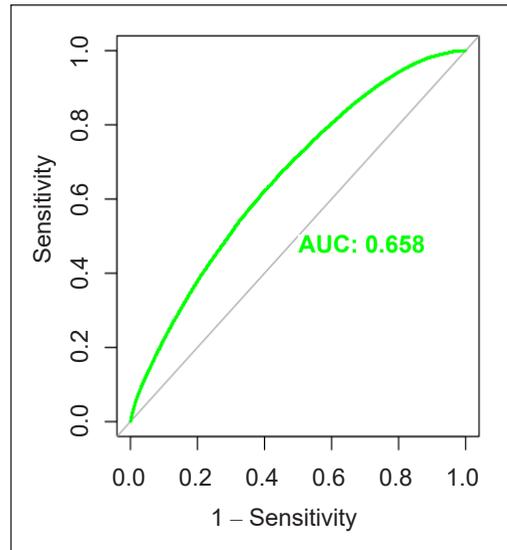


Figure 1. ROC curve

DISCUSSION

Most graduates were employed (85.5%), which is higher than the Ministry of Higher Education's target of 75% stated in the Malaysia Education Blueprint 2015-2025 (Higher Education). However, some stakeholders aspire for a higher percentage of graduate employability of more than 80% by 2025.

Logistic regression analysis maps the graduates' soft skills to their employment status. Positive values, teamwork, and problem-solving abilities have been identified as the most important soft skills contributing to employability. On the other hand, creative and critical thinking, analytical skills, general knowledge, and communication skills have a lower impact on employability. However, it does not imply that the skills with a low importance level are unnecessary, as the evaluation of the importance of these soft skills was based

on the graduates' perception of the skills rather than their actual contribution to the workplace.

Rashid (2003) investigated the factors of employability from the employers' perspective and discovered that the reasons for low employability were a lack of English proficiency, self-confidence, critics, and innovation skills. On the other hand, Ting et al. (2017) discovered that employers will still hire graduates with average English proficiency if they have good communication skills. Furthermore, it shows that good communication skills increase employability. Therefore, graduates must equip themselves with soft skills to improve their employability. It is consistent with previous research indicating that soft skills are important in preparing graduates for the job market and increasing their employability or ability to be self-employed (Cheong et al., 2016; Hairi et al., 2011; Teng et al., 2019).

Working experience gained through internships and entrepreneurship courses is statistically significant to graduate employability. This finding is supported by previous research that found that work experience improves employability (Chavan & Carter, 2018; Passaretta & Triventi, 2015). Internships are the best way for graduates to learn and practice employability skills that cannot be learned in a classroom setting. This finding is consistent with previous research, which discovered that graduates who completed internships were better prepared and marketable to employers (Gault et al., 2010). As many graduates have entered the gig economy, there is a growing demand for graduates who have completed an entrepreneur course. It is because the entrepreneurship course equipped graduates with fundamental skills, critical thinking skills, personal qualities, and workplace competencies relevant to the local industry (Jamaludin, 2019). As measured by MUET, English proficiency is critical in increasing graduate employability, as supported by previous studies (Othman et al., 2018; Zainuddin et al., 2019). As measured by CGPA, academic performance influences graduates' employability, which is consistent with the study by He et al. (2021). Although academic performance is not the most important predictor of graduate employability, it is important in making a good impression on a potential employer.

IMPLICATIONS OF THE STUDY

In this study, the impact of soft skills on employability is based on graduates'

perceptions of their soft skills rather than their actual level of soft skills. This data can be used as a proxy for how confident the graduates are in their soft skills. Based on the results, graduates who rate themselves as having positive values, teamwork, and problem-solving skills are more likely to be employed. It is worth noting that graduates who perceived they had excellent communication skills were less likely to be hired whilst many employers complained that our graduates lacked communication skills. This finding implies that future research should concentrate on actual abilities rather than perceived abilities.

The Malaysian government has made significant efforts to upskill graduates to ensure that the country can produce skilled workers to meet industry demand. The Malaysia Training Scheme Programme is one of the government's initiatives to ensure that graduates can upgrade their skills to supplement the knowledge gained during their degree, thereby addressing the skills gap. However, some skills are important but less likely to affect graduate employment. As a result, the programme should be reviewed regularly to ensure its effectiveness and meet industry demand.

It was discovered that internships and entrepreneurship courses positively correlate with employability. Most employability skills are gained directly through work experience. Therefore, it is suggested that higher education institutions make internships mandatory for first-year students to improve their human skills, professionalism, and knowledge.

Entrepreneurship courses should also be promoted to help graduates enter the labour market.

CONCLUSION

All stakeholders, particularly higher education institutions and the Ministry of Higher Education must aggressively develop a strategic roadmap to increase future graduates' readiness to align with labour market demand. This study provides insights into graduates' employability concerning their field of study and their ability to acquire industry-required skills. The findings can aid in developing intervention programmes to produce highly skilled workers, allowing fresh graduates to contribute to the country's economic growth.

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Experience of the Muslim Community Resistance During COVID-19 in Moluccas, Indonesia

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ABSTRACT

The empirical analysis of this article presents an interpretation of religious attitudes expressed during the COVID-19 pandemic in the Muslim communities in Moluccas, Indonesia. The article explains religious experiences and the meanings of their resistance to COVID-19. Various measures to respond to the pandemic have created resistance in religious communities globally. As a result, there have been violations of health protocols, including in Indonesia. Data were obtained through interviews and observations around Ambon City, Moluccas, Indonesia. The data were analyzed through qualitative methods and constructivist paradigms based on a phenomenological perspective, especially a social constructionist perspective. This article explains the role that phenomenological and religious studies of resistance can play in understanding effective public health management

and improving the government's policies and the pandemic health protocols. Subjective experiences occurred in religious worship, community homes, educational institutions, and rituals amid uncertain information and political polarization. The results indicate that resistance encompasses planning, fraud, global disasters, negative labeling, panic, anxiety, and fear. Resistance will have an impact and become necessary due to the

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involvement of individuals; this affects daily life for religious belief and coping with fear, panic, and uncertainty of COVID-19. This article will benefit Muslim communities' subjective experiences regarding resistance during the COVID-19 pandemic and encourage further research.

Keywords: COVID-19, meaning, motives, resistance, role of religious leaders, setting, subjective experiences

INTRODUCTION

In December 2019, the coronavirus emerged in China's Wuhan region (Moulaoum et al., 2021). On March 13, 2020, the World Health Organization (WHO)—after the continuous spread and careful monitoring of COVID-19 (Albertoni & Wise, 2021; He & Chen, 2021), found that the virus had gone global (Chau et al., 2020; Cucinotta & Vanelli, 2020) and spread quickly (Guo et al., 2020), including Indonesia, where the cases of two infected residents in the city of Depok were reported on March 2, 2020 (Djalante et al., 2020; Martha, 2020). COVID-19 affects large numbers of people (Udgata & Suryadevara, 2021). Mohan et al. (2021) estimated that transmission through aerosol and environmental factors could influence virus transmission. On July 9, 2021, pandemic cases involving large numbers of susceptible people (Udgata & Suryadevara, 2021) were related to the urban status, race, age, language, occupation (Nursalam et al., 2021), and various aspects of life; their impact on the global economy (Fernandes, 2020; Nguyen et al., 2020), politics (Kumar et al., 2021),

education (Abidah et al., 2020; Cao et al., 2020), tourism (Gössling et al., 2021), and religious life was no exception. The spread of COVID-19 rose to 185,573,594, with 4,010,729 deaths and vaccinations, reaching 3,356,247,321 people globally; Indonesia has the highest number of infections among ASEAN countries, with 2,455,912 cases and 64,631 deaths.

The consequences of this rise in cases include developments in many countries regarding religious, health, socio-economic, and cross-border business conflict (Boylan et al., 2021). The COVID-19 disaster has killed millions of people globally. Similar to the situation in many other nations, debates about COVID-19 policies tend to politically polarize the population under study in Indonesia (Kumar et al., 2021). However, the Indonesian government believes that the most effective way to prevent and stop the spread of COVID-19 is through the Minister of Home Affairs, which issued the Implementation of Level 4 Community Activity Restrictions (PPKM) Number 22 of 2021, which was in effect until August 9, 2021 (Albertoni & Wise, 2021; He & Chen, 2021; Khan et al., 2021; Regus, 2022). Affected patients will continue to be monitored and observed (Gkrouzman et al., 2021; Oxholm et al., 2021).

Likewise, every religious community must worship in private homes on the Fatwa of the Indonesian Ulema Council (MUI), Number 14 of 2020, concerning the implementation of worship during the COVID-19 outbreak. Worshipping at home is supported by the Circular Letter of the

Ministry of Religion, Number 13 of 2021, concerning Restrictions on Implementing Religious Activities in Houses of Worship. Religious communities' compliance with the government's circular letters and MUI fatalities is believed to help break the spread of COVID-19 (Regus, 2022). For several months, Friday worship was not carried out in congregations at mosques; it was halted in response to the government's appeal (Darmawan et al., 2020). However, several religious communities are still resisting and experiencing anxiety. Religious communities have faced an inner conflict between fulfilling faith demands and dealing with reality (Abdullah, 2020; Darmawan et al., 2020; Maliki, 2020).

Constraints on religious activities in houses of worship restrict micro-based human movement and optimize the management of COVID-19 to control its spread (Telaumbanua, 2020). Religious community debates have continued about the nuances of infection control using preventive measures. Nevertheless, religious communities have taken steps to engage in communication and social interactions. The impact of maintaining physical distance from others has been nearly catastrophic for them, as they are dependent on social engagement. Several sectors of society have raised the amount of resistance to health protocols, namely, resistance to people of different backgrounds in government policies to prevent a pandemic (Darmawan et al., 2020) as a guide for prevention, control efforts, and stopping the spread of COVID-19.

Previous studies have found that resistance is carried out from various perspectives (Barreneche et al., 2021; Miller et al., 2005; Scott, 1990; Vanden, 2007) and that there is a relationship between the revocation of authorization by religious leaders regarding the response to COVID-19 and religious responses to pandemics (DeFranza et al., 2021; Dein et al., 2020; Hart & Koenig, 2020; Wildman et al., 2020). Resistance emerges in space and time when individuals express that their surrounding environment (Tateo, 2017) is unfavorable, unfair, threatening, or stressful (Dent & Goldberg, 1999). Resistance is psychologically based on individual experience (Jermier et al., 1994; Sudarmo, 2018). Through experience, meaning is constructed via specific issues. Therefore, resistance is necessary for human life as it can sustain the construction of meaning in life (Abowitz, 2000; Ng et al., 2020). Although resistance plays a role in dialectical change, resistance related to health and religion has a different meaning.

Schutz's (1972) phenomenology is based on the study of life experiences of the world (Tasleem et al., 2020); it is rooted in social actions related to knowledge, meaning, and awareness and analogously covers symbolic structures for teaching individuals about "model seriousness in the continuity of social life" (Goldthorpe, 2014, pp. 265-289).

The subject's experience has meaning for pertinent issues, and the experience is supposed to be continuous (Goldthorpe, 2014; Sulaeman et al., 2022).

Phenomenology describes meaning as a result of construction, developing along with the subject's life experiences (Sulastrri et al., 2022; Tasleem et al., 2020), which implies an emergent product of construction rooted in the knowledge of the religious communities interests. Meaning affects the unfolding of religious communities' resistance. The meaning of religious communities will change with their experience of the elements that have been part of their resistance during COVID-19.

In terms of resistance dynamics, religious communities have expressed opposition to COVID-19 policies and health protocol, depending on how they have experienced communication regarding such policies; local religious leadership, which acts as a driving force for change and serves as a role model (*uswah hasanah*), influences the behavior of religious communities. The fatalistic, textual, and theocentric factors of religious understanding dominate the interpretation of the Muslim communities in Moluccas, Indonesia.

This article is based on the faith-related attitudes of religious devotees during a pandemic. The communities' religious behavior, which is counterproductive to government efforts, has resulted in several violations of health protocols in preventing COVID-19 in religious worship, community homes, and educational institutions, as well as during rituals. Meanwhile, mainstream religious organizations have made serious efforts to stem the spread of COVID-19. Nevertheless, they have failed to build a structured network of understanding. As a

result, there is a gap between the central policies of socio-religious groups and grassroots organizations. Likewise, people tend to ignore established protocols when performing regular religious practices—resistance results from conservative, traditional interpretations.

The Muslim communities' resistance regarding COVID-19 is focused on how a subject's experience constructs the meaning of resistance in different contexts through the experience of communication and meaning concerning government policies that aim to prevent a pandemic. This paper will comprehensively analyze such resistance through a phenomenological approach.

This article emphasizes the phenomenology (Schutz, 1972) of motives, the experience of communication, and the meaning of resistance during the COVID-19 pandemic. In addition, subjective experiences (Nurdin et al., 2022) affect the value of resistance and the lives of the Muslim communities concerning their understanding of the conditions related to religious reactions to COVID-19.

LITERATURE REVIEW

Experience that can occur because of social action is phenomenology (Merleau, 2007). However, phenomenology is also based on experience, and each gains knowledge through it (Ghahari et al., 2020). Knowledge is rooted in awareness, which underlies meaning (Goldthorpe, 2014) that contains information. Experience is necessary, is a subjective experience (Nurdin et

al., 2022), and has a remarkable impact (Ghahari et al., 2020; Tasleem et al., 2020). Social action, meaning, and awareness are individual experiences (Sulaeman et al., 2021). In terms of subjective experiences, at least the meaning is that “knowledge contains information from individual experiences” (Darawsheh et al., 2022, pp. 591-612). The meaning results from construction through individual experiences. The meaning of experience during the COVID-19 pandemic will change based on subjective perspectives. They have several elements from the construction in different contexts, with experience in communication regarding the government’s policies to prevent a pandemic.

The meaning of religious experiences during the COVID-19 pandemic protocol entails “perceiving, judging, feeling, and thinking... acting by finding components of the meaning of the social action being performed” (Tasleem et al., 2020, pp. 241-251) in terms of resistance to government policies. The self-assessment, social interaction, and action (Cooley, 1990) in religious communities, via their subjective experiences, are built by religious communities through social interactions and actions with the surrounding environment. Goldthorpe (2014) and Cooley (1990) view subjective experiences as facilitating an understanding of how religious communities determine their meaning and then build meaning about resistance during the COVID-19 pandemic.

The interpretation is that religious communities have explored themselves

through subjective experiences of resistance during the COVID-19 pandemic that differs from interactions with and action on government policies to prevent a pandemic. Individuals construct resistance in response to an initiative for change. Resistance is experienced by those forced to comply with policies that are viewed as bowing to societal pressure.

Resistance is also seen in instances of panic buying in the community (Soenjoto & Mujjono, 2020). This act of resistance violates the health protocols even though it is a survival strategy, which agrees with Barreneche et al. (2021) and Lahmiri and Bekiros (2020), who found that a pandemic can affect the economy and results in a food crisis.

In phenomenology, communication is social interaction and action. Therefore, we aim to explore meaning through transactional communication concerning resistance. Resistance “is individual experience” (Goldthorpe, 2014, pp. 265-289). It results from construction, development, and the subject’s life experiences related to the government’s policies in pandemic prevention.

The resistance of the Muslim communities is seen in their actions, borne of subjective experiences. This article discusses the religious experiences of the Muslim communities in the Moluccas, their subjective experiences, the motives and meaning towards resistance to the process of social interaction and action, and the role of religious leaders during the COVID-19 pandemic.

METHODS

This article examines the Muslim communities' resistance to the COVID-19 protocol. Many cases and empirical data have shown resistance to COVID-19 protocols and the increasing number of people affected by the pandemic. Resistance to the protocols in the Muslim communities of the Moluccas was chosen due to the reality that many of them were exposed to the COVID-19 pandemic via activities ranging from congregating in mosques, gatherings for prayer recitations, teaching at universities, and performing rituals.

This article uses a qualitative method (Sulaeman et al., 2021; Tasleem et al., 2020) through a phenomenological approach (Merleau, 2007). The qualitative research method aims to find information and focus on the problem to see the subtle reality of the social phenomenon whose meaning will be expressed (Bogdan & Steven, 1998).

This research describes the problem and provides a clearer picture of the Muslim communities' resistance to the COVID-19 protocols through an "interpretative" perspective (Scanferla et al., 2020; Sulastrri et al., 2022) on social construction (Fasse & Zech, 2016). The results are expected to objectively explain the situation without giving an assessment and intervention of the subject (Lindlof, 1995; Ridwan et al., 2020; Wolcott, 1994).

The study's informants are members of the Muslim communities in the Moluccas that have violated health protocols during the COVID-19 pandemic. Data from 15 informants were collected through several methods, including in-depth interviews and

observations. The article uses the snowball sampling technique, which entails obtaining more complete data as informants involve their acquaintances in the study (Lindlof, 1995; Moustakas, 1994). The informants have the requisite characteristics for the study and understand the information being examined.

For data collection, the subjective experiences of informants on Muslim communities' resistance were examined, including in-depth interviews and observations (Ghahari et al., 2020; Scanferla et al., 2020; Tasleem et al., 2020). In addition, the researcher observed and scrutinized the subjective experiences of Muslim community resistance during COVID-19 in religious worship, community houses, educational institutions, and rituals.

The field data were analyzed and carried out simultaneously through qualitative data-processing activities, namely, data reduction, data presentation, drawing conclusions, and verification according to the context of the question and research objectives.

RESULTS AND DISCUSSION

This study is based on in-depth interviews and observations of the Muslim communities' subjective experiences of the pandemic in Moluccas, Indonesia (Schutz, 1972). The researchers have classified the health protocol violations into (1) the subjective experience setting of the Muslim communities' resistance, (2) the role of religious leaders in the subjective experiences of the Muslim communities, (3) the motives for the resistance, and (4) the meaning of the resistance.

Subjective Experience Setting of the Muslim Communities' Resistance

Religious communities' resistance to COVID-19 protocol occurs in different settings, from one situation to another, including the types of resistance activities. The setting and type are often related to where resistance activities are held against restrictions and pandemic health protocols. Type does not refer to the form of resistance but the tendency to use the term only for religious communities' resistance. Although no one has legalized and validated the types, they exist and are developed in religious communities as subjective experiences in a place of resistance.

The subjective experiences of religious communities' resistance to COVID-19 protocol can be classified as open resistance (visible) (Ghahari et al., 2020; Tasleem et al., 2020). However, it can also be conducted in private (invisible). The subjective experience setting of open resistance is exhibited, among others, by the behavior of religious communities who do not wear

masks during ritual or social worship. Other settings include sites of religious worship, community houses, educational institutions, and areas where rituals occur. Meanwhile, the private (invisible) resistance setting is demonstrated in the subjective experiences of religious communities that do not follow health protocols (Ghahari et al., 2020; Tasleem et al., 2020).

The subjective experiences of the religious communities are oriented toward submitting all mundane matters to Allah, with no serious efforts to deal with the pandemic. In addition, invisible resistance is expressed by the orientation of religious communities' statements, which show indifference toward applying health protocols. The subjective experience setting of religious communities offers visible resistance, as shown in Table 1.

The table depicts the subjective experience settings of religious communities. Visible resistance to COVID-19 protocol during religious worship—which is beneficial, especially in congregational prayers—is contrary to guidelines and health

Table 1
Subjective experience setting of religious communities the visible resistance during the COVID-19

No.	Religious worship	Community houses	Educational institutions	Ritual tradition
1.	Routine worship: Friday prayer, Dhuhr prayer, Asr prayer, Magrib prayer, Isha prayer, and Fajr prayer.	<i>Ta'ziyahan</i> events	Classrooms learning	Ritual communication of a feast sacrifice
2.	Incidental worship: <i>Tarawih, Takbiran</i> , Eid al-Fitr, dan Eid al-Adha prayer.	Times of thanksgiving	Administrative services	<i>Bakupukul manyapu</i> ritual communication
3.		<i>Arisan</i> events recitation	Student intraorganizational discussions	<i>Abda'u</i> ritual communication
4.		Wedding parties		Folk festivals

Source: Field data (2021)

protocols during COVID-19. First, religious worship resistance is routine and incidental. Religious worship resistance settings are categorized as actions in obligatory prayers (Friday, Dhuhr, Asr, Magrib, and Isha prayers) and non-obligatory prayers (*fajr*, *tarawih*, *takbiran*, Eid al-Fitr, dan Eid al-Adha prayers), including incidental worship conducted in the commemoration of Islamic holidays. Religious communities feel confused and shocked when there is a ban on worshipping, where the policies and pandemic health protocols prohibited congregational and Friday prayers. They were surprised when *takbiran*, *tarawih*, Eid al-Fitr, and dan Eid al-Adha prayers during the COVID-19 must be at home. That prohibition made them to lose valuable religious experiences, which led to anxiety and confusion. Finally, they resisted COVID-19 protocols by performing congregational *tarawih*, Eid al-Fitr, and Eid al-Adha prayers in the mosque. The participation of religious communities on Friday, *tarawih*, Eid al-Fitr, and Eid al-Adha prayers in mosques during COVID-19 has been relatively high, and they ignored the prohibitions on gathering.

Some religious communities refused to comply with public safety orders out of contempt for government overreaction to the right and freedom of worship. Others continued to gather and worship in public because there was simply a lack of information or belief in the seriousness of the pandemic. As these religious and spiritual activities were challenged, religious communities wondered how the COVID-19 pandemic would affect the ongoing practice

of religion and the relationship between religious communities.

Second, resistance occurs because activities in the community's houses are incidental. For example, such resistance occurs when they celebrate childbirth, enter a new house, do an *arisan* recitation, *ta'ziah* and wedding. Third, resistance is also shown by face-to-face activities in educational institutions during classroom learning, administrative services, and student intraorganizational discussions.

Lastly, rituals have become part of an annual routine that is still conducted consistently without considering policies and the pandemic health protocols. Several traditional rituals are performed by large-scale gatherings, such as the feast sacrifice, *bakupukul manyapu* and *abda'u* rituals, and folk festivals.

Meanwhile, private (invisible) resistance has been expressed in textual, and philosophical, religious interpretations. This religious interpretation is oriented toward submitting all mundane matters to Allah without making any serious efforts to deal with the spread of COVID-19. In addition, the orientation values indicate the invisible resistance setting that showed indifference toward complying with the health protocols. The subjective experience setting of the religious communities that revealed invisible resistance is shown in Table 2.

The table portrays four subjective experience settings of religious communities, showing invisible resistance. First, the setting resistance to COVID-19

Table 2

Subjective experience setting of religious communities on the invisible resistance during COVID-19

No.	Religious worship	Community houses	Educational institutions	Ritual tradition
1.	Not maintaining social distancing	Not wearing a mask	A lack of sterilization	Mass gatherings
2.	A lack of sterilization	Bans on handshake	Not wearing a mask	A lack of sterilization
3.	The unavailability of hand sanitizers.	Not maintaining social distancing	The unavailability of hand sanitizers	Bans on handshake
4.	Not wearing a mask	A lack of sterilization	Bans on handshake	Not maintaining social distancing
5.	A ban on a handshake		Not maintaining social distancing	The unavailability of hand sanitizers Invitations to the congregational prayers
6.	Invitations to congregational prayers			
7.	Invitations to al-Qur'an recitation			

Source: Field data (2021)

countermeasure protocols committed to religious worship includes not maintaining social distancing, a lack of sterilization, the unavailability of hand sanitizers, not wearing a mask, bans on handshake, invitations to congregational prayers, and invitations to recite al-Qur'an. Ignoring prohibitions policies and the pandemic health protocols are acts of resistance. Second, resistance is conducted in houses because of celebrations and thanksgiving. Religious communities exercise resistance by ignoring policies and pandemic health protocols, such as not wearing a mask, bans on handshake, not maintaining social distancing, and a lack of sterilization.

Third, religious communities still conduct several educational institution activities face to face. The action was conducted as resistance through a lack

of sterilization, not wearing a mask, the unavailability of hand sanitizers, bans on a handshake, and not maintaining social distancing. Fourth, traditional rituals will continue to be carried out consistently by ignoring policies and the pandemic health protocols, such as mass gatherings, a lack of sterilization, bans on a handshake, not maintaining social distancing, the unavailability of hand sanitizers, and invitations to the congregational prayers.

The resistance of religious communities to COVID-19 protocol has been carried out openly (visible) and in closed (invisible) social spaces. However, using the phenomenological theory (Schutz, 1972), the experiences of religious communities are included in the hidden transcript category or can also be referred to as symbolic resistance (Lilja & Vinthagen, 2018). What

the adherents did was limited to discourses, statements, and religious practices that did not give rise to radical, hard, and formally organized, systematic forms of resistance and required a comprehensive and fundamental change. This symbolic resistance is indeed quite dominant in traditional societies.

This symbolic resistance has impacted the value of religious resistance, which is silent, hidden in social practices, and spreads massively in the beliefs of religious communities. At the same time, this symbolic resistance is supported on social media platforms such as Facebook, Twitter, and WhatsApp groups. As a result, this symbolic resistance develops massively in cyberspace when it encounters hoaxes. This symbolic resistance ultimately has hampered the prevention of COVID-19.

The Role of Religious Leaders in the Subjective Experiences of the Muslim Communities

COVID-19 has encouraged the emergence of new adaptations in various dimensions of life, including religious practices in faith-based communities (Oxholm et al., 2021). The latest adaptation includes implementing daily life activities, such as congregational prayers during worship—the actions of religious communities' demand changes in dealing with and overcoming COVID-19.

COVID-19 has had extensive influence on religious leaders. The role of religious leaders has been controversial during the pandemic. The concept of piety upheld by religious leaders has been used as a shield

that can protect the body from fatal attacks. This concept initially opposed government recommendations regarding policies and pandemic health protocols. Some religious leaders interpret government policy as the fear of disease (everything) created by Allah.

Their statement does not have absolute power for some religious people. However, another point of view, such as dogma, obviously causes the Muslim communities to become less aware of the disease. Scientists do not have the solutions and cures, nor do people have the religious answers to explain this phenomenon (Scott, 1990). In the religious mindset, COVID-19 becomes a transcendental virus, damaging its peace, convictions, and beliefs and constantly fluctuating. "There are still many who reject the reality of this virus, for that they need extra help from religious leaders to collaborate and educate the community together to suppress the rapid rate of transmission" (Informant 04, personal interview, March 19, 2021).

Many believers rationalize suffering by reaffirming Allah's love and omnipotence. They believed that COVID-19 does not have a scientific or biological basis but is a godly intervention. It is Allah's way of reminding them of how they neglected the Creator's teachings. COVID-19 has been attributed to Allah's wrath as a punishment for disobedient and sinful people and an occasion to pray for forgiveness. It is seen as retribution, such as how tyrants and oppressors impact human suffering. "The practice of religious worship changes.

Maybe Allah is providing new information, a new method to get closer to him [or Him]” (Informant 01, personal interview, August 11, 2021). “Adversity is Allah’s call to reevaluate our lives” (Informant 13, personal interview, June 26, 2021).

This doctrine makes communities not fear diseases. As a result, the level of vigilance declines, followed by the spread of the illness. However, they believed that Allah remains in control, no matter the cause and impact of COVID-19. In Muslim communities, Allah guides those suffering through love, which is all part of His greater divine plan. The Muslim communities make sense of these challenging times by looking at the misery caused by COVID-19 and seeing Allah as being in control. In this context, religious leaders in Ambon City have played an essential role in mobilizing religious communities toward policies and pandemic health protocols. “For this reason, he appealed that in every sermon, religious lectures could be inserted, the values of handling this pandemic continue to be socialized” (Informant 02, personal interview, July 09, 2021).

Religious leaders must assist, be present, and provide accurate and reliable data and information on the pandemic to religious communities. In addition, they influence the practice of religious worship, daily sermons and statements, and the value orientation of religious leaders. Religious leaders’ daily sermons and statements are necessary for the religious community to follow their words and actions. Religious communities will adopt, imitate, and practice it in their

daily lives based on their beliefs, not just by following logic and knowledge.

Religious leaders are the drivers of social movements and social change. They are role models for religious communities. Communities will quickly follow their action and word. However, social activities conducted by religious leaders are not carried out in a structured manner but rather covertly. For example, most imams (religious leaders), the leaders of congregational prayers in mosques, have performed obligatory and non-obligatory prayers by ignoring pandemic health protocols. As a result, there have been violations of the safety protocols. For example, if religious leaders do not wear masks, religious communities interpret that wearing masks is neither essential nor necessary and easy to imitate and follow.

The value orientation of religious leaders influences communities, which is classified as a spiritual value for peace of mind, satisfaction, happiness, and the community’s benefit (Oxholm et al., 2021). This value of spiritualism will affect the attitudes and awareness of religious communities in their daily lives.

Religious leaders’ role is to educate faith-based communities to behave according to the health protocols imposed. Religious figures become central figures whose actions can change political, social, and religious conditions. Religious leaders who have charisma are often in the spotlight. Behavior—activities, and words—can be easily spread and accepted by the religious communities following it. Significantly, the

ease of disseminating information is more pronounced with online media (Ben-Lulu, 2021). This convenience can increase the influence and role of community leaders in controlling socio-religious change.

The ease with which online media can be accessed and shared sometimes creates polemics resulting from information not being filtered; consequently, hoax-based news and facts cannot be distinguished (Ben-Lulu, 2021). However, religious leaders are essential in forming religious communities' attitudes, which are also statements of faith. The current role of religious leaders is vital in dealing with the spread of COVID-19, although health workers still hold the leading role. The influence of religious leaders cannot be underestimated, especially in the Indonesian context; such influence in grassroots religious communities is still powerful.

It can be seen in the government's efforts to involve religious leaders in various management efforts. Religious leaders are urgently needed to prevent the spread of COVID-19. They mainly consider that many followers of religious leaders can be mobilized to fight asymmetric information among minority groups who do not believe in the pandemic.

The resistance of the Muslim communities marks the strengthening of local religious leaders' influence and the weakening of the leaders of central religious organizations' influence. As a result, they are disloyal to the fatwas of the Indonesian Ulama Council, Nahdhatul Ulama, and Muhammadiyah, which issued fatwas on

implementing COVID-19 health protocols in the worship rituals. This situation shows that the loyalty values of religious adherents have begun to fade. It also marks a shift in religious authority from leaders of central religious organizations to local religious leaders. In other words, there has been a process of decentralizing religious authority, which has devolved upon local religious leaders. This article shows that local religious leaders strongly impact the shaping of religious behavior in grassroots communities.

The Motives of the Muslim Community Resistance

This study discusses why religious communities resisted health protocols and explores the social reality of subjective experiences of the Muslim communities in Moluccas, Indonesia. Initially, Husserl (1928) developed a subjective interpretive method (Darawsheh et al., 2022) called phenomenology (Scanferla et al., 2020), which is the approach used in this study. The goal is to understand how religious communities have resisted protocols during the COVID-19 outbreak as part of their daily awareness. Phenomenology initially assumes that religious communities actively conduct subjective interpretations regarding COVID-19 and focuses on the conscious experience of religious communities by understanding their COVID-19 reality or subjective experiences.

It implies how to resist the COVID-19 outbreak with government policies based on phenomenological studies (Fasse & Zech,

2016; Ghahari et al., 2020; Scanferla et al., 2020; Tasleem et al., 2020). The article focuses on why religious communities have resisted during the COVID-19 pandemic. For every act of resistance, there is a motive that orients a person to act. Subjective meanings and explanations are associated with individual activities (Delli & Maddaloni, 2021). Therefore, it is essential to observe religious communities as having subjective experiences of performing resistance during COVID-19 because the reason is evident in religious communities in Indonesia (Delli & Maddaloni, 2021).

The concept of this motive is a consistent assumption (Delli & Maddaloni, 2021). The religious community's subjective experiences give meaning to their resistance (Scanferla et al., 2020). The religious community's subjective experiences are considered the motive behind conducting resistance actions during the COVID-19 pandemic. Their subjective experiences include more general themes.

Some religious communities are driven to resist COVID-19 because of their lack of danger, distrust, fear (leaving life and death in the hands of Allah), hoaxes, information uncertainty, political polarization, minor adaptations, and cultural shock. Religious communities' resistance through violations of pandemic health protocols, including violations as a motive for not complying with government policies (Delli & Maddaloni, 2021), comprises their subjective experiences.

COVID-19 distrust is a subjective experience, like not knowing and understanding if COVID-19 exists and

occurs. This concerns and worries the government and other related parties because their understanding contributes to the high spread of the virus. Many deaths will follow a high transmission rate risk because of trivial causes, namely, distrust of COVID-19.

“Do not understand that COVID-19 does not make me less religious, and COVID-19 is not dangerous and distrust” (Informant 06, personal interview, July 14, 2021).

“COVID-19 is not difficult to understand, is not pure science, and has something to do with Allah” (Informant 12, personal interview, April 22, 2021).

Not believing in the existence of COVID-19 can be possible because of clumsiness, not having access to knowledge, having a solid belief that Allah created living things for the interests and needs of His people so that there is no need to be afraid, getting knowledge and information from the wrong sources, and not having good information. Therefore, there is a need for accuracy, though only hoaxes are often obtained, as well as wrong references. Thus, the government has implemented policies and health protocols and adopted new habits to stop the spread of the coronavirus. This approach encourages Muslim communities to adjust their behavior according to health protocols.

The ease with which online media can be accessed and shared sometimes creates polemics resulting from information not

being filtered; consequently, hoax-based news and facts cannot be distinguished. However, religious leaders are essential to forming religious communities' attitudes, which are statements of faith. Religious communities have a powerful network, mainly supported by social media such as Facebook, Twitter, and WhatsApp. Social media are an effective alternative tool. During the COVID-19 pandemic, social media were full of opinions and frustrations, which has allowed for the discourse of this article. This resistance discourse develops massively on the internet when mixed with hoaxes. As a result, the COVID-19 response movement has faced serious obstacles.

Some religious communities consider COVID-19 a form of political polarization meant for economic and political gain, a perspective that fits with the confusion and theories that are part of other conspiracies.

"It is Allah's way of warning us. Is there maybe a conspiracy? It can't be real." (Informant 15, personal interview, June 17, 2021)

"The religious role through COVID-19, the absence of spiritual leaders." (Informant 03, personal interview, August 12, 2021)

"COVID-19 is political, not divine, which causes economies to crash. It even quiets the religious clergy." (Informant 11, personal interview, March 22, 2021)

"COVID-19, the biological war between the East and the West,

breaks the order of every human being." (Informant 07, personal interview, April 15, 2021)

The COVID-19 health crisis presents the regime with an opportunity to suppress political dissent and consolidate power. The government tends to make COVID-19 a security issue that requires massive security of state finances, which shapes the direction of the government. Pandemic governance is inherently institutional. However, social reality is in crisis, with structural failures related to the special interests of the elite and the neglect of large communities. Thus, the challenge for communities is to uncover and address the humanitarian dimension of the COVID-19 crisis. This dimension is a spectrum composed of relentless exploitation that destroys the environment; there is blind greed for economic gain, and politics prevent communities from taking control of their shared destiny.

COVID-19 forces religious communities to adapt their lifestyles to prevent coronavirus transmission by implementing health protocols. There is a pattern of life with a new atmosphere created due to adjustment and anticipation of these conditions. Religious communities need to respond appropriately to changes in the environment with high adaptability. The change in lifestyle from before and during the pandemic can be seen as a shift from one culture to another. Religious communities that cannot adapt and are not well prepared for the migration process will experience culture shock, stress, and depression and are selected by nature (i.e., the environment).

New habits will subsequently and can cause a response to discomfort and anxiety. Old habits do not go away by themselves but persist due to previous habits from before COVID-19.

In this article, religious communities resist alone or with others who have similarities and come together in the bond of intersubjective meaning. These religious communities have resisted COVID-19 policies and the pandemic health protocols. Concerning this paper, Schutz (1972) asserts religious communities' background against resistance during COVID-19.

The motives are based on religious communities' resistance during COVID-19; they are motivated by COVID-19, seeing it as not dangerous. They distrust and think there is no need to be afraid, leaving life and death in the hands of Allah. They believe COVID-19 is a hoax, and there is information uncertainty, political polarization, a lack of adaptation, and culture shock. The motives of religious communities to perform resistance during COVID-19 do not merely form. Several types of resistance accumulate into a subjective experience, leading to the pool of knowledge they possess.

Knowledge is generated from subjective experiences and interaction-communication that involve the process between religious communities. This knowledge underlies the formation of a motive for resisting policies and the pandemic health protocols. Forming a motive in religious communities when resistance is based on knowledge leads to violating health protocols.

The aim of religious communities' actions is based on knowledge of policies and the pandemic health protocols. Knowledge is obtained from the subjective experiences of sharing information with religious communities, which helps them to know about the congregational worship prohibition. Furthermore, this knowledge encourages the emergence of certain motives when performing resistance during COVID-19 health protocol violations.

The motive is the stimulus for religious communities to resist policies and the pandemic health protocols.

The Meaning of the Muslim Communities' Resistance

Phenomenology describes the natural concept of religious communities' perception of the world. Phenomenology seeks to understand how Muslim communities experience and interpret resistance to health policies and protocols during a pandemic.

During the COVID-19 pandemic, the Muslim communities of the Moluccas have resisted health protocols. Starting with looking at the categories of resistance to policies and the pandemic health protocols. Emerging forms of resistance are planned; this includes fraud, global disasters, negative labeling, panic, anxiety, and fear.

Each community interprets the policy category and the health protocols. However, the results are influenced by various sources, such as the media, religious leaders, and their communication experiences. Therefore, the results of the meaning of resistance cannot stand alone; they tend to influence other

groups and later become the shared meaning of religious communities. Whereby meaning arises from interactions with other humans as interpreting policies and the pandemic health protocols.

Interpreting policies occurs because of the relationship between each element of their resistance; they interpret COVID-19 as related to panic, anxiety, and fear. The meaning of resistance will be tied to the subjective experience obtained from media, religious leaders, and the communication experience. The act of resistance by religious communities is interpreted as building togetherness in performing congregational prayers in mosques.

The resistance of the Muslim communities to COVID-19 pandemic protocols has implications for the values of religious life. The Muslim community in the Moluccas generally adheres to a fatalistic theological view, so they consider COVID-19 an ordinary phenomenon. They view COVID-19 as a test of the Muslim faith. Therefore, the right attitude in dealing with COVID-19 is to return to Allah, who created COVID-19. This highest act of submission to Allah gives birth to a calm soul in the face of COVID-19 without any anxiety.

CONCLUSION

The public and the religious community commit several violations of health protocols during the pandemic. There are still many violations of the protocol to resist COVID-19 countermeasures. Studies show that resistance can be expressed openly

(visible) and closed (invisible) social space by holding mass activities that do not meet the standards of COVID-19 health protocols. The state of resistance is expressed secretly through statements describing mindsets, life attitudes, and beliefs. Meanwhile, the resistance factor can be seen in religious understanding and the influence of religious leaders.

Some religious communities are driven to resist COVID-19 protocols for various motives: distrust, lack of fear, the desire to leave matters of life and death in the hands of Allah, hoaxes and information uncertainty, political polarization, minor adaptation, and cultural shock. These motives are grouped as the “in-order-to” motive, to use Schutz’s (1972) terminology, because “motive” refers to the religious communities’ subjective experiences, while the “in-order-to” motive is oriented toward resistance during the COVID-19 pandemic. The process of interpreting religious communities occurs because of the relationship between each element of their resistance; they interpret COVID-19 as related to panic, anxiety, and fear.

It is necessary to embrace and involve traditional religious leaders in overcoming COVID-19, as religious leaders are in direct contact with their followers. Existing studies have shown that religion plays an important role in COVID-19 countermeasures. However, this research shows that religion and its devotees, if not managed properly, will develop resistant attitudes toward these countermeasures.

This article has discussed several aspects of the subjective experiences

of Muslim communities in Moluccas, Indonesia, particularly their resistance to health protocols during the COVID-19 outbreak. However, further research needs to be carried out to explore other elements, one of which is the communication experiences of religious resistance to policies and the pandemic health protocols. The cooperation of all parties is needed; only by accommodating various elements in society in an integrated manner through the involvement of religious and community leaders from central and regional, local, and national levels can the COVID-19 response be thoroughly coordinated throughout a society.

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Vocational Self-Efficacy as a Moderator on the Relationship Between Perceived Social Support and Students' Interest in TVET Programmes in Pakistan

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ABSTRACT

Studies have shown that the behaviour of family, friends and significant others shapes young people's self-belief and interest in Technical and Vocational Education and Training (TVET) programmes. However, limited research has documented how vocational self-efficacy can significantly impact the relationship between perceived social support and students' interest in Pakistani TVET programmes. Thus, this study utilised quantitative research to examine the role of vocational self-efficacy as a moderator in the relationship between perceived social support and students' interest in TVET programmes. A total of 386 secondary school students filled out three questionnaires: vocational self-efficacy, perceived social support, and interest in the TVET programmes scale using Social Cognitive Career theory as a theoretical framework. The data were analysed using Structural Equation Modelling (SEM) and statistical analysis using Statistical Package for the Social Sciences (SPSS). The correlation analysis revealed that perceived social support and students' interest in the TVET programmes were negatively correlated, and vocational self-efficacy was not a moderator. This study benefits the authorities, policymakers, and researchers in supporting TVET programmes in Pakistan.

Keywords: Social cognitive career theory, students' interest, vocational self-efficacy

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INTRODUCTION

Technical and Vocational Education and Training have received significant attention worldwide due to the rising demand for a workforce that is well-trained, industry-responsive, and has high-order thinking skills (Marope et al., 2015). The trained and skilled workforce has an extensive role

in attracting foreign direct investment and aiding in the industrialisation and economic development of the country (Haudi & Cahyono, 2020). In addition, the nation's physical development is profoundly affected by the skills adopted by the community through the education system. TVET programmes in developed countries have existed for decades and are well-organised and substantiated (Obwoye & Kwamboka, 2016). For example, around 80% of youths aged 15 to 29 in Germany and 20% in Switzerland are more likely to enrol in TVET programmes than other work-study programmes (Organisation for Economic Co-operation and Development [OECD], 2017).

Despite the significance of TVET, the programme is still unpopular among South Asian countries like Pakistan, Nepal, Afghanistan, Sri Lanka, India, and Bangladesh. The low enrollment in TVET is due to poor perception in society (Lee, 2020). For example, the TVET term in Pakistan focuses on theoretical and hands-on training and developing proficiency in the manual skills needed. Furthermore, many manual or labour-intensive jobs are perceived as unbecoming and are considered a trade for the poor and underprivileged in Pakistan (Alam, 2015).

Due to these social and cultural beliefs, many parents do not want their children to enrol in the TVET, thus affecting students' interest in the programmes (Ayub, 2017). There were no formal TVET training bases in 1947 in Pakistan. However, in the mid-1950s, two polytechnic institutes in Karachi

and Rawalpindi were established. Over the years, Pakistan's technical education system has undergone several developmental changes as the government realised the significance of TVET in reforming the labour force (Technical and Vocational Training Authority [TEVTA], 2018).

Given the rising demand for skilled workers in the labour market, the Medium Term Development Framework developed a strategy covered from 2005 to 2010 by implementing successful schemes and resources to meet the demand of the labour market of one million per year (Government of Pakistan, 2005). Under the plan, Pakistan established the National Vocational and Technical Education Commission (NAVTEC), which serves as the country's governing and coordinating body for the TVET sector and policy formulation. The foremost motive was to meet the international standards in the TVET sector and meet the labour market demand while promoting enrolment. Only 3%. Pakistan's early TVET system, the lowest ever in the region, focused more on curriculum-based methods than a competency-based or practical approach (National Vocational and Technical Training Commission, 2018). The National Education Policy also highlighted these challenges by recognising that skill development is imperative. The TVET sector needs to be strengthened to achieve labour market demands to effectively utilise the working-age population and achieve sustainable economic growth (National Educational Policy, 2009).

Consequently, NAVTEC presented a pioneering policy entitled 'Skilling Pakistan National Skills Strategy (2009-2013),' which formulated a plan to compete in the domestic and global market for skill development. Under this policy, the government also set a vision entitled "Skills for Employability and Skills for All," where the National Skills Strategy acknowledged two key objectives: (i) shifting from supply-driven to demand-driven training by enlisting the private sector where relevance, equity, and access are at the core of the strategy, (ii) shifting from curriculum-based and time-bound training towards more competency-based education (National Vocational and Technical Training Commission [NAVTTTC], 2018). Twenty reforms are proposed to implement and achieve the desired goals and objectives. It mainly provides applicable economic and industrial growth skills to provide access to informal economy workers by implementing an efficient quality assurance approach and promoting research and development.

Despite the government's several reforms, the workforce's development with technical and professional skills has been disregarded. As a result, it has produced a tiny share of the skilled workforce in Pakistan. The widening skill gap contributes to high unemployment in various economic sectors (Nooruddin, 2017). The high unemployment rate in Pakistan indicates that a large portion of potential human capital is still untapped. TVET is being promoted internationally and has the potential to substantially reduce the risk of rising unemployment and is viewed as a means to reduce youth unemployment

(Hanushek et al., 2017; Mansor & Rashid, 2013).

Students' interest in TVET is an area that needs exploring as there is a prerequisite to identifying which factors influence them (Blattman & Ralston, 2015). Personal interest is a construct that plays a crucial role in understanding human behaviour and motivation, and individual interest rises in early childhood and is primarily consistent from childhood to young adulthood (Su, 2020). The combination of contextual and cognitive factors, like perceived social support and vocational self-efficacy, can explain the development of individual interest.

Among these variables, the most significant predictors of secondary school students' interest include vocational self-efficacy, which refers to an individual's belief in his or her own ability to complete a task (Van Rooij et al., 2017). If students are not confident that they can be accomplished and succeed in a specific activity, their interest in that activity will decline (Huang et al., 2019). A recent study conducted in schools and colleges in Nigeria showed that students have low self-efficacy in skills acquisition and lifelong learning. Many TVET students showed low levels of assurance in their ability to hold onto skills and refrained from going to workshops and laboratories where machines, working tools, and equipment were fitted. Some students showed less interest than others and had no motivation to learn new skills or face new challenges (Usoro & Etuk, 2016).

Currently, research on TVET programmes in Pakistan has been mainly anchored on demographic differences, facilities, funding, curriculum, and enrolment (Azeem et al., 2022; Chamadia & Shahid, 2018; Siddiqui et al., 2019). Furthermore, there is insufficient literature to provide information regarding the cognitive factors influencing school students' interest in TVET programmes in Pakistan. This study aims to fill the literature and methodological gaps by using SEM to investigate the role of vocational self-efficacy as a moderator between perceived social support and students' interest in TVET programmes in Pakistan.

LITERATURE REVIEW

Social Cognitive Career Theory

The Social Cognitive Career Theory (SCCT) (Lent et al., 2008) provides a framework that incorporates these career-related factors into a comprehensive model for career development based on personal interest. SCCT emphasises the interactional dynamics of person, environment, and behaviour, which affect the development of academic and career interests (Lent & Brown, 2008). In this model, individuals develop an interest in activities in which they feel efficacious (i.e., in which they have higher levels of self-efficacy). Furthermore, some of these interests elicit similar goals, affecting career choice behaviours, and further affecting their interests.

Self-efficacy is at the heart of Bandura's Social Cognitive Theory (Bandura, 1977; Bandura & Locke, 2003) and SCCT (Lent

et al., 1994). Academic and career choice behaviours are positively impacted by self-efficacy, the perceptions of one's ability to perform a task or behaviour successfully (Bandura, 1977). Self-efficacy determines the number of effort people expend on an activity, their perseverance when confronted with obstacles, and their resiliency when facing challenges (Schunk & Pajares, 2002). When people believe their actions can produce desired results, they are more motivated to act or persevere in facing difficulties. Conversely, highly self-efficacious, well-skilled people may choose not to engage in behaviours consistent with their high levels of self-efficacy in an academic or career path if they believe that there may be adverse outcomes to their doing so, such as social constraints, disincentives, or performance limitations (Bandura, 1997; Lent et al., 2001). Higher levels of self-efficacy in one domain result in more positive outcome expectations. Together, higher levels of self-efficacy and more positive outcome expectations lead to and reinforce one's interest in a specific field (Lent et al., 2008). Developing interests must lead to further exposure to related activities, which increases the probability of a person performing and practising desirable task behaviours. In turn, this produces the attainment of performance goals, which creates revisions of self-efficacy and outcome expectations in the person's mind. This interactive feedback loop of practising a task and having one's self-efficacy and outcome expectations revised repeats itself over one's life span. However, once interests stabilise, it tends

to take “very compelling experiences to provoke a fundamental reappraisal of career self-efficacy and outcome beliefs” (Lent et al., 2008, p. 89), such as dramatic changes in one’s life or career circumstances. However, self-efficacy and outcome expectations do not shape vocational interest, choice, and performance alone. Individual traits and context influence career interest, choice, and performance, including family, friends, and schooling (or education) (Bandura, 1977; Lent & Brown, 1996).

The present study focuses on TVET interests, with the discussion centring on Lent et al. (2008). The Model of Interest Development SCCT holds that vocational self-efficacy is central to forming career interests. Students tend to develop interests in academic subjects and careers when they possess strong self-efficacy and have great social support from friends, family, and their school environment, which indirectly affects interests.

Dimensions of Interest

In educational psychology, the concept of interest is strongly rooted within a grander body of literature called individual differences, which are concentrated on the research of personality and intellectual differences between entities. Three theoretical classifications, cognition, affection, and conation, exist in the broad discipline of individual variations (Ainley, 2011; Hidi & Renninger, 2020). Cognition refers to the realisation of knowledge and deeper levels of processing or understanding (Grossnickle, 2016), whereas affection

consists of temperamental and emotional constructs, like an individual’s hypothetical levels of attraction to a fondness for an event (Niankara, 2019). Lastly, conation comprises intrinsic motivation and is a force arising from a person free from external factors (Tobias, 2006). The sub-dimensions of the construct of interest are shown in Figure 1.

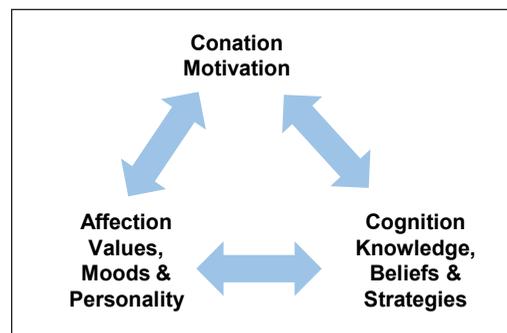


Figure 1. Interest connection within the construct
Source: Ainley (2011)

As can be seen, interest is a robust motivational process that guides academic and career trajectories, energises learning, and is essential to academic success. Consequently, this study picked students’ interest in TVET as its most crucial construct and dependent variable. Throughout this study, the researcher referred to these three components (affection, cognition, and conation) as the facets of interest in Technical and Vocational Education and Training programmes.

Perceived Social Support and Student Interest

Social support can be measured as the perception or support given by friends, family, and significant others that encourage

an individual and augments the physical, cognitive, and affective psychological dynamics (Vietze, 2011; Zimet et al., 1988). Perceived social support is categorised in three ways: (i) emotional support that involves empathy, trustworthiness, the availability of someone to listen to problems, and concern over an individual's well-being, (ii) informational support where valuable information, concrete advice, or suggestions about resources and courses of action is given and (iii) instrumental support where tangible assistance is given like money, transportation, and repairs (Gaeeni et al., 2015). These support behaviours are typically assessed in functional measures, and friends, family, and teachers seem to be students' most pervasive sources of social support (Zimet et al., 1988). The availability of social support from friends, family, and teachers continues to be a central focus of career interest and career development literature, and studies have shown that social support positively correlates with individuals' interest in persuading them to become entrepreneurs (Agarwal et al., 2020; Ayyubi et al., 2018; Azeem & Omar, 2019).

Family Support and Students' Interest

The importance of family support in the career interest of their children is a critical factor in predicting the career interest of children and task-related confidence, specifically during the early stages of adolescence. Proper family support pertains to members who show concern toward each other and are willing to solve problems together (Haslam et al., 2017). Many

sociological and psychological theories share the assumptions that parents often transmit their values to their children, and this can shape their children's values (Grusec et al., 2000). Research shows that parents and their young adults are now more connected than in past generations and children frequently pursue their parents' endorsement (Corey, 2015). Lauermaun et al. (2017) found that children value parents' support as it influences children's interests and career expectations more than friends and teachers.

Parents influence their children's interests, values, and career choices and can offer financial means that provide security and educational opportunities that allow youth to attain financial independence and stability (Davidov et al., 2015). Parents also provide information on various job opportunities and are the first to introduce youths to important work-related skills in the labour market (Ginevra et al., 2015). Based on this, the following hypothesis was proposed:

H₁: There is a significant relationship between family support and students' interest in TVET programmes.

Friends' Support and Students' Interest

Friends' support contributes to youths' healthy emotional well-being (Hellfeldt et al., 2020). Alberti and Emmons (2002) defined support from friends as behaviour that permits individuals to act per their interest to use their rights to express their feelings easily, defend themselves, and consider equality in personal relationships

(Alberti & Emmons, 2002). The studies show that peer support does not influence students' interest in a choice of subject or career interests, while studies show that peers hinder youths' academic and vocational skills (Kazi & Akhlaq, 2017). According to Ngwato (2020), students' interest and desire to choose TVET programmes are associated with friends' support due to norms among teenagers. Hence, their friends can influence students' interest in TVET programmes due to their norms. As such, the following hypothesis was proposed:

H₂: There is a significant relationship between friends' support and students' interest in the TVET programmes.

Significant Others Support and Students' Interest

Support from significant others refers to the emotional comfort and practical assistance given by school members, administrators, teachers, career counsellors, and professional help (Zamani-Alavijeh et al., 2017; Zimet et al., 1988). Besides the family, teachers play an essential role in increasing student interest and attitude (Lan & Moscardino., 2019). Zee and Roorda (2018) found that the emotional support given by teachers uniquely contributed to the development of social skills and academic competence of elementary school students.

Aziz and Zulkifi (2020) postulated that students' families and peers were a moderately high push factor influencing the student's enrolment in the Malaysian TVET programmes. However, there is limited

research on perceived social support and students' interest in TVET programmes in Pakistan. Based on this, the following hypothesis was proposed to establish the relationship between perceived social support and students' interest in the TVET programmes among secondary schools in Pakistan:

H₃: There is a significant relationship between significant other's support and students' interest in the TVET programmes.

Vocational Self-Efficacy as a Moderator between Perceived Social Support and Students' Interest in the TVET Programmes

Vocational self-efficacy is how individuals view self-capabilities (Betz & Schifano, 2000; Gainor, 2006). If the person has low vocational self-efficacy, they may not persevere in facing challenges and may feel discouraged. Vocational self-efficacy determines the initiatives of behaviour and influences the degree of effort one will put in and how long that behaviour can be sustained (Bandura, 1997; Bandura & Locke, 2003).

Vocational self-efficacy relates to one's confidence in pursuing career-related tasks, where stronger vocational self-efficacy brings higher personal goal aspirations (Betz, 2007). According to Bandura (1997), perceived self-efficacy occupies a central part in the novel structure of social cognitive theory because self-efficacy beliefs will impact adaptation, alter their rights, influence other determinants and affect the strengths of commitment and aspirations. Most people

can empower themselves and raise their self-efficacy by using environmental factors that can influence people's interests, behaviours, and attitudes (Bandura, 2012).

Margolis and McCabe (2006, p. 218) viewed vocational self-efficacy as a form of a question, such as "Do we have the capability to shape and implement the activities needed to achieve an exact task at a preferred level?" Vocational self-efficacy plays a remarkable role in TVET students' lives, and people will be able to overcome challenging and complex situations more easily if they have higher levels of self-efficacy (Bandura, 2012).

Vocational self-efficacy has a moderate, positive correlation with vocational interests (Nuutila et al., 2020) and influences career plans among high school students in Italy (Chiesa, 2016), Australia (Rogers et al., 2018) and college students in Hong Kong (Li et al., 2019). Consequently, support interventions that boost youths' career-related self-efficacy and broaden occupational possibilities must be carried out (Azeem et al., 2021; Omar et al., 2019; Rashid et al., 2009).

Self-efficacy is a significant moderator of the strength of the relationships between empathy and forgiveness (Baghel & Pradhan, 2014), global leadership competencies and knowledge transference (Yoon & Han, 2018), role stress and job burnout (Ho, 2018), and positive mood and cognitive performance (Niemic & Lachowicz-Tabaczek, 2015). The studies mentioned above have discussed self-efficacy as a moderator on other domains in the Western

context. In addition, many researchers have related self-efficacy as a mediator in students' career interests (Chui et al., 2020; Horvath, 2017; Saari & Rashid, 2013). However, only some researchers have found vocational self-efficacy to moderate students' career interests in the Western context (Golestan, 2014; Lent et al., 2013). Regarding Pakistan, there is no research on vocational self-efficacy as a moderator on the relationship between perceived social support and students' interest in TVET programmes. Based on this, the following hypothesis was proposed:

H₄: Vocational self-efficacy will moderately affect the relationship between perceived social support and students' interest in the TVET programme.

CONCEPTUAL FRAMEWORK AND HYPOTHESES

The research's conceptual framework is based on the moderating effect of vocational self-efficacy between perceived social support and students' interest in TVET programmes. Based on Zimet et al. (1988), the perceived social support model consists of family, friends, and significant others. Furthermore, vocational self-efficacy is viewed as a secondary school student's confidence in completing various vocational tasks. Furthermore, a vocational self-efficacy questionnaire developed by Ali et al. (2005) was used in this study. Lastly, students' interest in the TVET programmes is viewed based on Ainley's (2011) definitions of a person's prior knowledge and experiences

of value and enjoyment in that context determine their interest. The research framework is shown in Figure 2.

The following research objectives proposed for this study are:

- i. To determine the relationship between family support and students' interest in TVET programmes.
- ii. Assess the relationship between friends' support and students' interest in TVET programmes.
- iii. To examine the relationship between significant others and students' interest in TVET programmes.
- iv. To determine the vocational self-efficacy as moderate on the relationship between perceived social support and students' interest in the TVET programmes.

The hypotheses formulated for this study are:

- H₁: There is a significant relationship between family support and students' interest in the TVET programmes.
- H₂: There is a significant relationship between friends' support and students' interest in the TVET programmes.
- H₃: There is a significant relationship between significant others and students' interest in the TVET programmes.
- H₄: Vocational self-efficacy will moderate the relationship between perceived social support and students' interest in the TVET programmes.

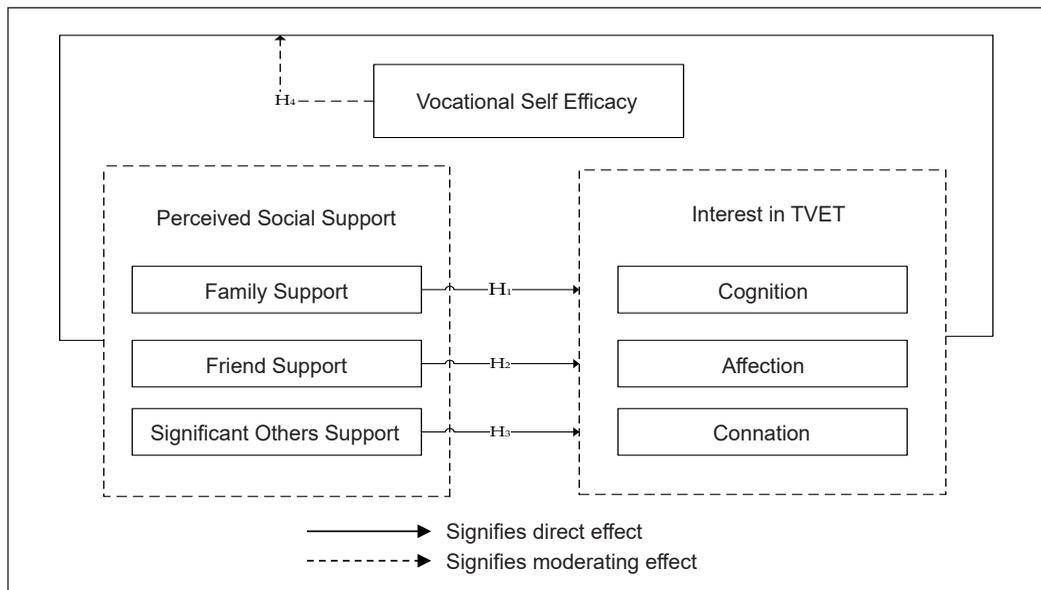


Figure 2. Research framework specifying the hypothesised structural linkages among variables

MATERIALS AND METHODS

Research Design

In this quantitative research, a cross-sectional survey design was adopted to determine secondary school students' interest in TVET programmes in Pakistan. The reasons for using a cross-sectional sample design are as follows: firstly, it allows the researcher to study a sample of respondents from the appointed population at a single point in time, minimising the impact of time-related confounding factors. Secondly, the data obtained from a cross-sectional design can be collected from many people and be comparable because a particular point does not influence the data in time. Lastly, it is a relatively fast, easy-to-conduct, and inexpensive research. Hence, this research design fulfils the eight hallmarks of scientific research: testability, purposiveness, precision, rigour, parsimony, confidence, replicability, and objectivity (Ary et al., 2018). Thus, a cross-sectional design was an appropriate research method for this research.

Participants

This study adopted a quantitative, cross-sectional survey design. It involved 319,299 tenth-class students from 6400 secondary public schools in the Punjab province of Pakistan. The sample size of this study was determined to be 384 using Cochran's formula, and an additional 5% was added to the minimum sample to account for non-response from some students during the data collection process, making the total sample 403 (Cochran, 2007). The choice

of the participant was made through a stratified proportionate sampling method. In the first stage, twelve districts were randomly selected out of Punjab's 36 districts (four districts were randomly selected from each high, high-medium, medium, and low-medium social stratum). In the second stage, the researcher randomly selected three schools with equal sample sizes from twelve districts of Punjab. It was done using computer-generated digits ($3 \times 12 = 36$ schools). Finally, the sample size was computed to its proportion (percentage) in each district, assuming that all the government high schools and higher secondary schools had similar standards and environments. The assumption was made because staff recruitment in these schools was centralised, and equal qualifications were prescribed to each member.

Similarly, the institutions were not autonomous in their activities, but centralized procedures were being followed. In the third stage, the research participants were selected at the school level. The selection was conducted randomly from a list of secondary schools in the twelve districts, and the school selections were made by referring to a random number table. Subsequently, while visiting the selected schools, the students were randomly picked using the students' name list, which the school principals provided to complete the questionnaires. Of the 403 questionnaires distributed, 386 copies were filled and returned. Overall, only 386 questionnaires were analysed in this research, forming a usable response rate of 95 %.

Additionally, participation was voluntary, and students were informed of the study through a verbal message via the schools' contact persons. Only students aged 15–17 and older who could consent to participation were selected.

Instrumentations

For this quantitative research, a three-part questionnaire was created. The first section concerns the research topic, its importance and confidentiality, and the anonymity statement. The second section comprised the respondent's demography, and the third section contained the questionnaires comprising perceived social support, vocational self-efficacy, and students' interest in the TVET programmes.

For the “Multidimensional Scale of Perceived Social Support,” a five-point Likert scale consisting of 12 items that measure respondents' perception of social support from their friends, family, and significant others was developed according to Zimet et al. (1988). For the “Vocational Educational Self-Efficacy Scale,” a set of 20 items was developed according to Ali et al. (2005) to measure the confidence of respondents in their ability to perform vocational tasks based on a five-point Likert scale ranging from “No Confidence at All” (1 pt.) to “Complete Confidence” (5 pt.). Similarly, a set of 19 questions with a five Likert scale ranging from “strongly disagree = 1 to strongly agree = 5” were adapted from Ainley (2011) and Baker et al. (2015) to measure students' interest in the TVET programme. This study validated the content of the instruments using four experts.

Two experts were from Universiti Putra Malaysia, and two were from the University of Education, Lahore. The comments from the experts were taken into consideration, and necessary adjustments were made to ensure that the instruments' item, as well as their formats, adequacy, and logical structures, justify the content validity of the instruments. The reliability test was measured using Cronbach Alpha coefficients. As reported in Table 1, the reliability coefficient values ranged from .851 to .975 indicating all values exceeded the desired level of 0.7 (Hair et al., 2019). Therefore, the instrument that comprised 51 items was reliable as the Cronbach alpha was higher than the acceptable level of .70.

Table 1
Cronbach Alpha Reliability of the constructs

	No of items	Main Study n=386
Perceived Social support	12	a=.91
Friends	4	a=.92
Family	4	a=.94
Significant others	4	a=.92
Interest in TVET	19	a=.95
Affection	7	a=.77
Cognition	5	a=.71
Conation	7	a=.78
Vocational Self-efficacy	20	a=.95

Note: >0.6=Poor, 0.6-<0.7=Questionable, 0.7-<0.8=Acceptable, 0.8-<0.9=Good, 0.9≤=Excellent

Source: Hair et al. (2019)

Data Analysis

The data obtained were analysed using descriptive statistics, and Pearson correlation analysis was used to determine if there were any significant bivariate relationships

between the independent variables and the dependent variable. SEM with Smart Partial Least Squares software (SMART-PLS) 3.0 was used to determine the moderating influence of vocational self-efficacy between the role of family, friends, and significant others and students' interest in the TVET programmes. Based on the SEM model, the structural model of the study was found to fit with the data. The two-step process involved in the systematic application of these criteria entailed distinct assessments of the measurement and structural models (Table 2). First, the assessment of the structural model results followed the confirmation of reliability and validity.

Validating the measurement models and fitting the structural model are the two phases involved in the structural equation modelling process. Validation of the measurement models is achieved mainly through confirmatory factor analysis, while structural model fitting is achieved mainly through path analysis with latent constructs.

RESULTS

Demographic Information of the Respondents

The respondents' demographic data showed 189 (49.0%) males and 197 (51.0%) females.

A total of 203 (52.6%) respondents were 15 years old, 135 (48.0%) were 16 years old, and 48 (12.4%) were 17 years old. With regards to the level of education of the respondents, computer-science groups were in the majority, constituting (34.7%) of all participants, 128 (33.2%) of the respondents were from the humanities group, and the remaining 124 participants (31.1%) were from the bioscience group.

Hypotheses 1: Relationship Between Family Support and Students' Interest in the TVET Programmes

The study's first hypothesis was to establish the relationships between family support and students' interest in TVET programmes. The strength of the relationship was analysed using the Cohen rule of thumb, where $r = 0.1$ to 0.29 is considered weak, $r = 0.30$ to 0.49 is considered medium, and $r = 0.50$ to 1.0 is strong (Cohen, 2013). Table 3 shows the correlation among the variables tested.

There is a significant relationship between family support and students' interest ($r = -0.621$, $p < 0.05$). Furthermore, there is a strong, negative correlation between the variables with a coefficient of -0.621 , indicating that students with higher family support had a lower interest in the TVET programmes; thus, the hypothesis is accepted.

Table 2
PLS-SEM

Systematic Evaluation of PLS-SEM	
Evaluation of the Measurement Models	Internal consistency (composite reliability), indicator reliability, convergent validity (average variance extracted), discriminant validity
Evaluation of the Structural Model	Coefficients of determination (R ²) predictive relevance (Q ²), size, and significances of path coefficients f ² effect sizes.

Source: Hair et al. (2016)

Table 3
Mean (*M*), Standard Deviation (*SD*), and correlation among the variables

Variables	<i>M</i>	<i>SD</i>	PSSfa	PSSfr	PSSso	INT
Family Support (PSSfa)	3.51	1.12	1	0.472**	0.603**	-0.621**
Friend Support (PSSfr)	3.32	0.93		1	0.520**	-0.556**
Significant Other (PSSso)	3.20	1.25			1	-0.602**
Interest TVET (INT)	2.61	0.94				1

Note: ** Correlation Coefficient is significant at the 0.01 level (2-tailed)

Hypotheses 2: Relationship Between Friends' Support and Students' Interest in the TVET Programmes

H_2 : There is a significant relationship between friends' support and students' interest in the TVET programmes. The data shows a significant relationship between family support and students' interest ($r = -0.556$, $p < 0.05$). Furthermore, there is a strong, negative correlation between the variables with a correlation coefficient of -0.556 , indicating that students with higher friend support had a lower interest in the TVET programmes. Therefore, the hypothesis is accepted.

Hypotheses 3: Relationship Between Significant Others' Support and Students' Interest in the TVET Programmes

H_3 : There is a significant relationship between friend support and students' interest in the TVET programmes. There is a significant relationship between family support and students' interest ($r = -0.602$, $p < 0.05$). There is a strong, negative correlation between the variables with a coefficient of -0.60 , indicating that students with support from significant others had a lower interest in the TVET programmes. Consequently, the hypothesis is accepted.

Hypotheses 4: Vocational Self-Efficacy as a Moderator in the Relationship Between Perceived Social Support and Students' Interest in the TVET Programmes

The effect of vocational self-efficacy as a moderator in the relationship between perceived social support and students' interest in the TVET programmes was analysed, and the validity of the measurement and structural model was determined.

Measurement Model Assessment

In this study, using SEM was supported by PLS (Partial Least structures) graphic software to build the structural model of students' interest in TVET programmes in Pakistan. In addition, confirmatory factor analysis (CFA) was carried out to test the data obtained for model fitness, to assess convergent validity, and to construct reliability.

To improve the model, the initial measurement model showed a low Average Variance Extracted (AVE) of > 0.5 . Therefore, these CFA items were lower than $CFA < 0.5$ and were dropped to stabilise the error variances. Subsequently, two items were dropped out of forty-nine from the initial model: one from family support

(PSSfa4) and one from friend support (PSSfr6). Table 4 shows the results of the measurement model.

The value of the loading factor for all the items (students' interest, perceived social support, vocational self-efficacy) was above 0.5. The reliability of the measurement model was based on the criteria of internal reliability with Cronbach Alpha > 0.7, CR > 0.6, and AVE > 0.5 (Table 4). Construct reliability coefficient values ranged from 0.910 to 0.962, indicating that all values exceeded the desired level of 0.6. Hence, convergent validity for the measurement model in this study was adequate. Fornell and Larcker (1981) recommended that "the value of the square root of AVE of one construct must be higher than the value of inter-correlations between the constructs" to validate the discriminates. As depicted in Table 5, the AVE's square roots are higher than their corresponding intercorrelations. Consequently, the measurement model for this study was found fit and be acceptable.

Assessment of the Structural Model and Hypothesis Testing

For the evaluation of the structural model, the essential criteria used were path coefficient (β), coefficient of determination (R^2) for an endogenous variable, effect size (f^2), prediction relevance (Q^2), and multicollinearity/inner Variance Influence Factor (VIF). The R^2 value of the interest in TVET was 0.590, more than 25% demonstrating a highly acceptable prediction level in empirical research (Shmueli et al., 2019). Furthermore, there was no multicollinearity issue in this current study, as the inner VIF values are less than five. The results in Table 6 depict that the lowest VIF value was 1.419 and the highest VIF value was 2.45, which confirmed the lack of multicollinearity within independent variables.

A blindfolding test was done to compute Q^2 to investigate the predictive relevance of the model. The model was determined to be a good fit and have high predictive

Table 4
Results of the measurement model

Constructs	Items	FL	CA	CR	AVE
Perceived Social Support (PSS)	10	0.893-0.924	0.912	0.910	0.684
Vocational Self-efficacy (VSE)	20	0.888-0.902	0.943	0.949	0.580
TVET Interest (INT)	19	0.801-0.830	0.958	0.962	0.569

Note: "FL = Factor Loading; CA = Cronbach's alpha; CR = Composite Reliability"

Table 5
Discriminant validity for the measurement model

	AVE	INT	PSS	VSE
TVET Interest (INT)	0.569	0.754		
Perceived Social Support (PSS)	0.684	-0.662	0.711	
Vocational Self-efficacy (VSE)	0.580	0.481	-0.409	0.713

relevance as the Q^2 values were above zero. The fit indices for the model are displayed in Table 6.

Table 6
Fit indices for the structural model

	R^2	Q^2	f^2	VIF
INT	0.590	0.295		
VSE			0.512	2.425
PSS			0.104	1.419

Bootstrapping was used to observe the moderating effect. The standardised path coefficient for H_4 was not significant at $p < 0.001$. As shown in Table 7, vocational self-efficacy did not have any moderating role in the relationship between perceived social support and interest in TVET ($\beta = 0.012, t = 0.373, p > 0.05$). Therefore, the hypothesis is rejected, and the final research model is displayed in Figure 3.

Table 7
Summary of hypotheses testing

Path	B	M	SD	T	P	Result
$H_4 : PSS * VSE \rightarrow TVET \text{ interest}$	0.012	0.010	0.033	0.373	.709	Non- Significant

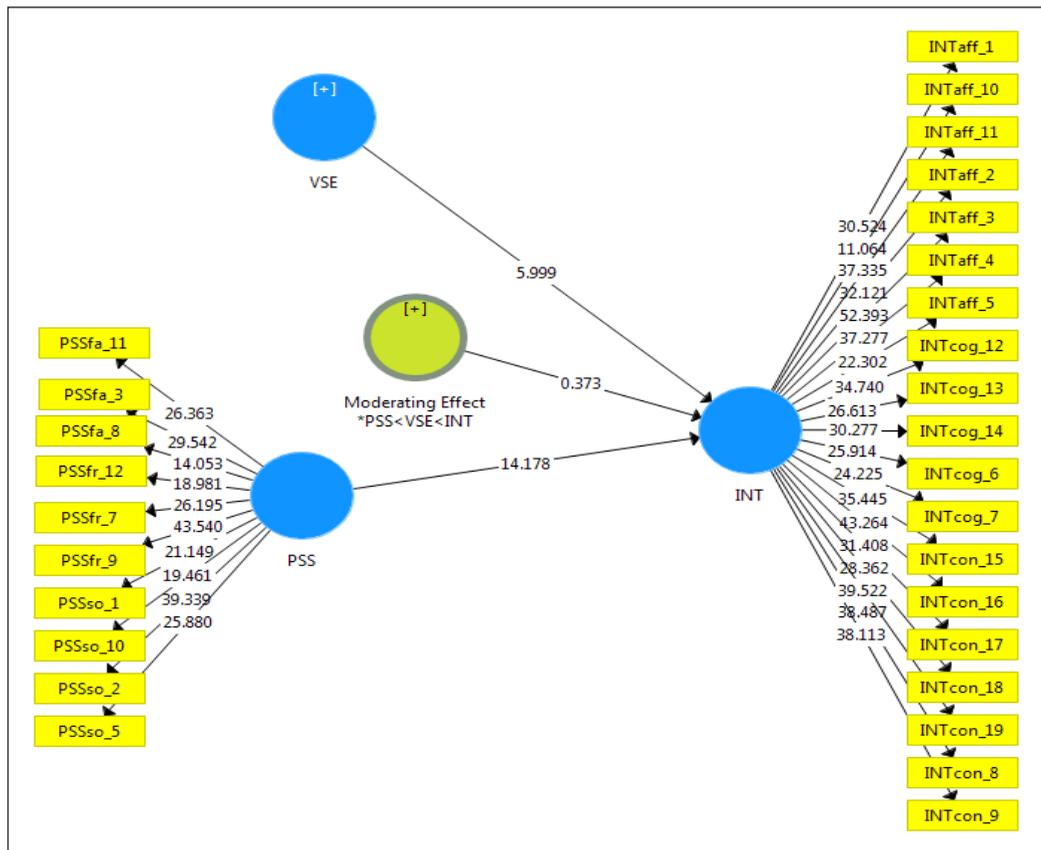


Figure 3. Structural model of the study

DISCUSSION

Based on the results, support from family members negatively correlated and showed significance against the students' interest in the TVET programme among secondary school students in Pakistan. Furthermore, family influence showed negative, strong statistical significance on the student's interest in the TVET programme. This finding is consistent with recent research by Aziz and Zulkifli (2020), indicating that many families do not support their children's interest in TVET programmes. It might be due to biases in families and the perception that the TVET programmes are merely a substitute for students who are not academically gifted.

This study found that friends had a significant negative correlation with students' interest in TVET programmes. These findings are consistent with Kazi and Akhlaq (2017) and Ngwato (2020), who inferred that friends negatively influence their peers when selecting school subjects. Peer groups belonging to the same social class share the same values, influencing their friend's choices, especially in academic and vocational skills. This result might be due to many students lacking knowledge and being less inclined to do manual work. Also, some students right from secondary schools developed a phobia about career interest in TVET programmes because of the negative impressions passed on to them, either by their senior colleagues or friends. However, such students' expectations in TVET cannot directly affect their interest and intention to join the programmes.

This study also found that significant others were negatively correlated and showed statistical significance in influencing students' interest in TVET programmes. It suggests that secondary school students with high perceived social support are least likely to be interested in TVET programmes. This finding is corroborated by previous studies where perceived social support from friends, family, peers, and teachers played an important role in influencing the individuals' interest in studies (Azeem et al., 2021; Ngwato, 2020). It can be attributed to Pakistani society, where manual work has been primarily regarded as low, leading to less interest. The Ministry of Education in Pakistan is considering making TVET a compulsory subject for all primary and secondary school students, where a credit pass in the subject will become a requirement for admission to study in tertiary institutions across Pakistan. This initiative will require motivated teachers ready to give their students the best foundation in TVET careers.

Lastly, it has been found that vocational self-efficacy was not statistically or significantly influencing the relationship between perceived social support and students' interest in the TVET programmes in this study. The result is in line with Ayyubi et al. (2018) and Rashid (2009), who explained that students are more influenced by the people they rely on, such as family, friends, and significant others. The possible explanation is that in Pakistani society, children are less independent in making choices and more dependent on family,

friends, and significant others. Furthermore, parents are more interested in approving majors that pay well and are related to higher social status. The negative perceptions of the TVET programmes make them unattractive to family, friends, and significant others. It is conceivable that eradicating the negative perception of the TVET programmes increases the support of family, friends, and significant others to create interest in the TVET programmes.

Despite the importance of this study, this approach had some limitations. Firstly, the sample size of the current study focused only on government schools. Future studies can include government and private school participants, which will help increase the model's performance. Secondly, the participants who were enlisted in this study were only secondary school students, which limited the generalisability of the results. Future studies should expand the participation to include the general population from different provinces (older adults, children) to represent the study sample comprehensively. Lastly, this study did not find the reasons for the negative perception among family, friends, and significant others. Future studies can shed light on these underlying factors using a qualitative approach.

CONCLUSION

Given the growing importance of Technical and Vocational Education and Training (TVET) and the career options and persistent underrepresentation of students in the fields, there is knowledge

to be gained by examining cognitive and contextual factors associated with students' interest in the programmes. Generally, these variables have been proven important in this study concerning secondary school students' interest in TVET programmes. Therefore, there is a significant need to emphasise these variables more, as it could eradicate unemployment and increase student enrolment in TVET programmes. In addition, this study reveals a negative perception of TVET programmes among family, friends, and significant others, influencing students' interest in pursuing the programmes in Pakistan. Furthermore, vocational self-efficacy does not moderate the relationship between perceived social support and students' interest in TVET programmes.

This study has important implications for the relevant authorities to help them focus more on promoting TVET among families, teachers, and parents. Training activities can be carried out to ensure that they are well-informed about the latest updates in the TVET field so that they can encourage their children to pursue the programmes. School counsellors may provide some practical strategies to parents that help them explore their careers and discuss their children's future work plans and the job market.

The interest in pursuing TVET can be emphasised in the school curriculum to increase awareness about the various career opportunities. More TVET programmes in the curriculum can be adapted, such as inviting professionals to share their

experiences with students, teachers, and parents to promote it in Pakistan.

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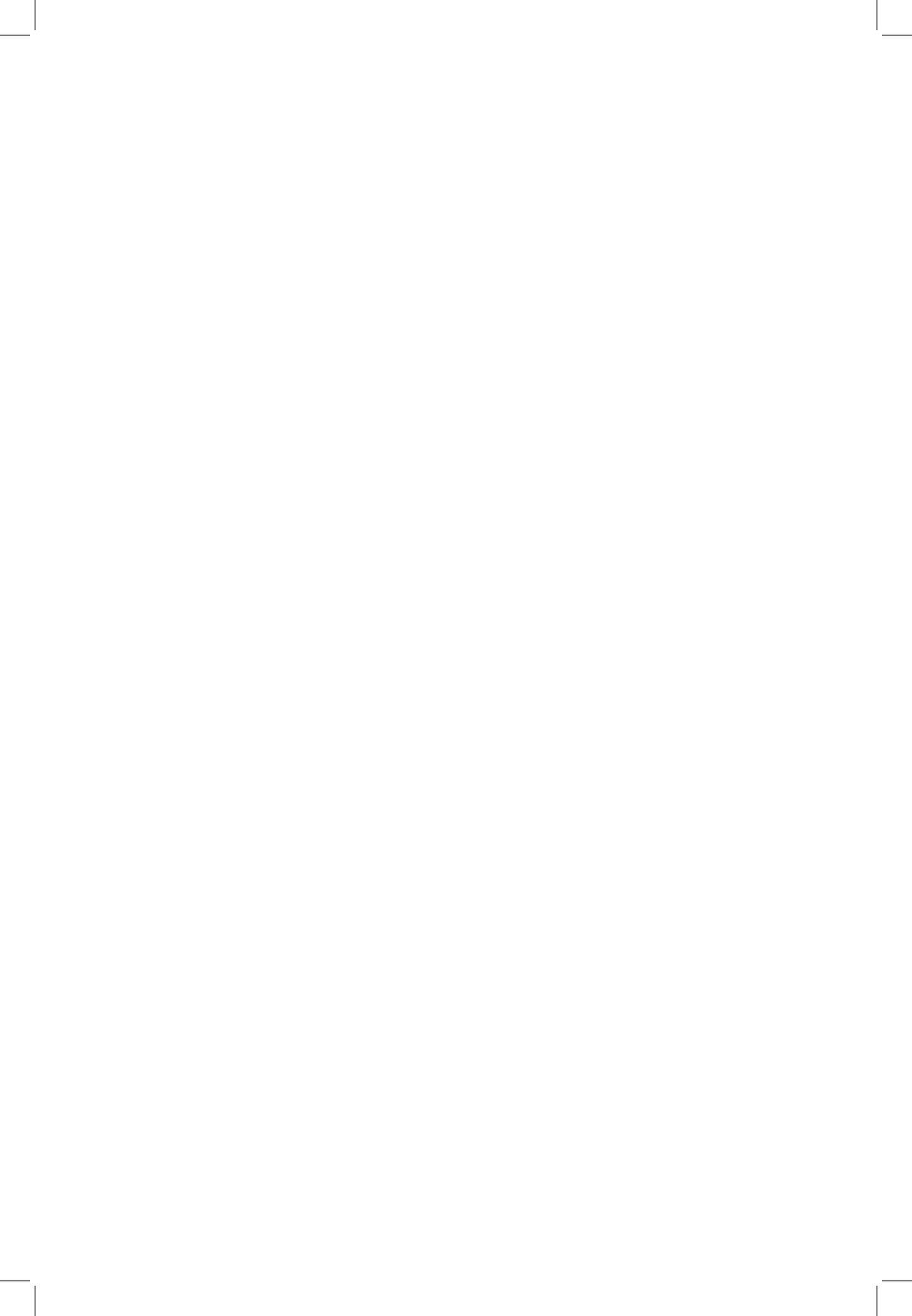
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The Artistic Vanguards and the Bridges: Innovation and Transversality of Engineering and Other Arts

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ABSTRACT

This article critically reviews the development of painting art and the engineering of bridges in the first half of the 20th century. It shows that the expression of thought is directed towards innovation at a certain historical moment and non-imitation as a professional ethos. The vision is articulated through a multilevel perspective, including the social shaping of technology. The different milestones are chronologically compared following the Artistic Vanguards. It is shown that there was an accumulation of radical, disruptive innovation in the period between the World Wars. New tools to develop creativity were sought, and new figurative solutions and materials, such as concrete for bridge construction, began to be employed. The impressionist Monet and Eiffel and the cubist Picasso and Ribera deeply comprehended the previous techniques and dared to challenge them. The transversality of art and engineering is key to the innovation process.

Keywords: Art, artistic vanguards, bridges, concrete, engineering, innovation

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INTRODUCTION

Today we live in a knowledge-based society (Drucker, 1969). However, it is increasingly compartmentalized, and the professions are its clear exponents. Of course, it can be understood that each artisan produces his piece, but it seems worrying that they do not know what they make, how, and why the artisan next door does it.

An encapsulated knowledge loses the enrichment of the environment and

hardens, following the specialization rules exclusively. On the other hand, the meeting of several fields gives rise to osmosis and creativity. In knowledge, it is explained by the idea of cross-pollination (Boutang, 2011).

With this idea, two disciplines are analyzed, the art of the so-called Artistic Vanguards in painting and bridge engineering, at a given historical moment, specifically, during the first part of the 20th century when the expression of thought was directed towards non-imitation, giving rise to disruptive innovations.

Artistic movements in painting, such as Cubism, which developed around 1910, proposed forms of expression destined to break with the figurative modes bequeathed by tradition, and they redefined what was understood as art. In bridge engineering, the discoveries of new materials such as steel and concrete were supposed to be great advances and led to the spectacular development of structures, compared to those of stone and wood, in use until then.

First, it is necessary to underpin the concept of innovation and draft the theoretical framework that allows the affirmation that said innovation took place. The innovation object of this study is a disruptive innovation (Bower & Christensen, 1995), radical, and not an incremental advancement, hence the choice of art according to the so-called Artistic Vanguards in painting and parallel bridge engineering.

The multilevel perspective is the theoretical framework that justifies and articulates innovation in art and engineering,

which studies the innovation process through three levels: niche, sociotechnical regime, and sociotechnical landscape (Geels, 2010). The niche is divergent, and it is where disruptive innovation mostly arises. The regime demarcates the operation level of the industry, production, and infrastructures and regulates the application of technology in the economy. Finally, the sociotechnical landscape corresponds to art and culture, more generally to the sociotechnical mindset.

The innovation in art is seen through the change of this mindset itself, in the evolution of reality perception and expression, expanding what was understood till now as art. Hence, the arts are placed at the landscape level. From where it transcends to fields such as engineering. From the perspective of engineering as a work of art (Manterola, 2010), depriving things of their utility transforms them, and they become works of art, as Duchamp did by exhibiting a now-famous urinal in a museum.

In bridge engineering, we attribute innovation to the development of structural engineering technology (Billington, 1985) in its typological and aesthetic evolution within Europe, which has shaped most of its global theoretical and constructive guidelines. Engineering is primarily located at the regime level because it constitutes the infrastructure of productive capacities of society in transport and construction.

The innovation unfolding during the Artistic Vanguards is staged through the theoretical framework of the multilevel perspective. The innovation articulation

and its permeability among levels are also highlighted through the social construction or shaping of the technology/innovation approach (Klein & Kleinman, 2002; Pinch & Bijker, 1984; Winner, 1993). This concept reinforces the importance of transversality between disciplines. Technological innovation is not seen as a finite product that arises in a divergent and pioneering niche and afterward is scaled up and applied, impacting society and other levels. The interpretative flexibility of innovation implies that it is a product of interaction between the actors and levels.

Engineering evolution is analyzed in comparison with art according to historical sequencing. It implies not only the technology that engineering and art entail but also the shape, lines, structures, color reasoning, the emotion. Aristotle (2000) distinguished three dimensions of intelligence: episteme (logic), *techne* (practice), and *phronesis* (wisdom, incorporating context). *Metis* (Kumar, 2021; Mulgan, 2018) or improvisation is also recently added and relevant. Both in art and bridge engineering, all four dimensions apply.

During the 19th century, it is challenging to find antecedents that follow a convincing theoretical framework that allows a coherent conceptual *bridging* between art and engineering. As a result, they become too distant in their approach to reality and its transformation. However, innovation is a common transversal phenomenon, and its outlook is considered an inspiring stronghold for study coherence.

There are antecedents regarding the study of non-imitation in bridges by

Billington, who described the steps of the evolution of the great structural artists, comprising three stages: imitation (not always present), innovation, and inspiration (Billington, 2003). He also contextualizes the ‘Structural art timeline’ (Billington, 1985), recording the most representative engineers, works, and advances. The density and concentration of references around the avant-garde period, i.e., the end of the 19th century and the beginning of the 20th, are noticeable. It is pointed out how, after the first and second industrial revolutions till the 60s, the courage of old constructions has been replaced by monotony and shyness (Schlaich, 2001).

Few works focus on the importance of a cross-disciplinary approach. A spirit of collaboration that encourages the crossing of knowledge works as a “Transversal Culture” (Laiglesia et al., 2010), which shows that success can be understood as innovation based on the transversality of knowledge and the complementarity of diversity, particularizing the Art-Science-Technology triangle. Following these terms, a visual tool called CATI is applied to analyze the positioning of the New European Bauhaus (Rosado-García et al., 2021) as an approach to transversality. The abbreviation CATI is Spanish and stands for *Ciencia* (science), *Arte* (art), *Tecnología* (technology), and *Innovación* (innovation); these concepts are the backbones of sustainable engineering and industry. It highlights the importance of science, opening spaces where possibilities and uncertainties do not need an empirical justification and where intuition and art become an important way of searching

for answers and solutions. For example, the Historical Bauhaus was considered an inclusive educative space. Maximum efficiency and spatial logic orchestrated the dispositions of relationships (Carra, 2009) with the revision of the values and methods applied in education in general and art in particular; members of the school were taught to ‘unleash participants’ creative forces’ through spontaneity and intuition (Ballantyne, 2004).

Today, interest in other transversal aspects, such as aesthetics, seems to reappear. Nowadays, an approximation of the concepts of engineering and art is required since they are more than modes of expression with which the engineer, like the artist, becomes a maker of the form (Rosado-García, 2022). Bridge engineering of the twentieth century underwent the transformation that brought the potential of new materials, with the consequent technical achievements, functional gains, and the “reconquest” of aesthetic values claimed by great engineers such as Fernández-Casado or, more recently, Billington, Manterola, or Rice. The latter is an example of creative engineering and transversality between disciplines such as engineering and architecture (Rice, 1994). Knowledge of structural mechanisms cannot and should not be unrelated to the rest of the disciplines, whether technical or humanistic (Arenas, 2002). Everything that requires a commitment to composition, balance, and the accumulation of sensations is art. Faced with a painting like “The Scream” by Munch, it must also exist in the sensory experience of a bridge (Sanz-Balduz, 2004).

The objective is to humanize the way of seeing engineering, inspire engineering education to guide teaching in the humanities, and promote engineering ethics (Billington, 2006). A comparative analysis in studies of disciplines so apparently different pretends to positively affect the actors, inducing reflection, enriching, and inciting their interest in why, how, and what can be done to foster future innovation.

Ethical engineering supports a noble cause because it favors life, culture, and the most authentic human values. Hence, a relevant aim of this study is to bring engineering closer to society. Moreover, engineering and ethical engineering not only satisfy intrinsic conditions such as functionality or economy. “Ethics and Aesthetics can never be absent from the work of the engineer” (Arenas, 1990).

Science, transposed to technology, technique, and art, are considered the main sources of inspiration and impulse toward innovation. However, art also can influence the level of the sociotechnical landscape, understood as a mindset, common sense, and social aspirations.

This article conducts a qualitative critical review of the case study of innovation in art and engineering in the interwar period in Europe, following the common thread of the so-called Artistic Vanguards.

The objective of the work is to demonstrate that, at a certain historical moment, in the presence of the industrial revolution, innovation permeates different levels. The expression of human thought is directed towards non-imitation, taking

a parallel course both in art and in bridge engineering, with the development of concrete and following, in this particular case, a sequence of “isms”: Fauvism, Cubism, Futurism, Expressionism, Dada, and Surrealism.

LITERATURE REVIEW

The art-engineering bionomy was considered; thus, it is worth defining what we understand by each concept and analyzing these concepts' evolution throughout history. In traditional terms, technology was understood as an art and craft (Klein & Kleinman, 2002). However, since the beginning of the 19th century, it has evolved, mainly with the spread of engineering schools toward technological invention. Art is a human activity that aims at creating cultural works but also implies a set of skills, techniques, or principles necessary to carry it out.

Technique and, therefore, engineering and art are considered alive, continuously evolving, and impossible to exhaust in their evolution (Gasset, 1983). Therefore, an engineer or an artist, as a technician, as a 'reifier' of ideas (Calvo-Sotelo, 2003) must be characterized by internal creative impulse.

Traditionally, technology was understood as arts and crafts (Klein & Kleinman, 2002). However, since the beginning of the 19th century, mainly with the spread of engineering schools, it has evolved toward the purpose of the invention.

Scientific knowledge, with its theories regarding the universe's functioning, leads to

the technology praxis (with the intermediate points of applied and translational sciences (Perrow & Davy, 2008)). The technique is the knowledge or ability to apply technology (Douglas & Isherwood, 2021; Rip & Kemp, 1998).

Art is conceptualized not only as entertainment and distraction but as a crucial part of the socio-economy, providing mechanisms for developing new ideas in the social context. Creativity is considered the raw material for both cultural and economic development. However, as it is a dynamic part, it often escapes the scope of traditional studies (Potts, 2009). Artist is conceived as a person capable of a creation that provokes the spectator's emotion. It does not seem far from what an engineer achieves with his/her work (Lynch, 1960). Therefore, bridge engineering is understood as an artistic activity (Addis, 1994).

Technology is hereby perceived in transactional terms (Perrow & Davy, 2008) as the material means to achieve an end. The technique, in turn, concerns the processes implied by technology. In modern terms, technology refers to devices and mechanisms and their relationship. They are combined in a system in functional configuration (Rip & Kemp, 1998). Technology becomes part of routines and models of social behavior. As a part of communication within culture, it aims at satisfying needs and achieving objectives (Douglas & Isherwood, 2021). Technology and its artifacts are necessary to make cultural categories visible and stable (Douglas & Isherwood, 2021). The bridge, or the car, are not isolated products but are

insignias of the sociotechnical landscape, implying materials, laws (regulatory standards), and culture (value and meaning) of mobility.

Artistic Vanguard

The avant-gardes cover the first half of the 20th century. First, different events between the two World Wars and World War II brought the reactivation of the US economy, making it the cradle of the mass-production model. Then, the Russian Revolution, the Bauhaus in Germany, the happy 1920s, and the New York crash in 1929 unfolded. Finally, it was followed by the Great Depression, the National Socialism of the Third Reich, and the politics of the NEW DEAL for re-energizing the American economy (Cappelli, 1999).

In this context rose the stereotype of an artist who is misunderstood and committed to a series of values opposing the entire convulsed world, prone to miserable developments. Therefore, the economy does not always follow a single upward direction of progress. Instead, it evolves through a meandering movement. It is also true for the processes such as evolution, technological development, or innovation with suboptimal lock-ins (Geels, 2005).

Before World War I, the so-called five Artistic Vanguard were born in this scenario. The 'color revolution' break-in in 1905 with Matisse's Fauvism, inspired by expressionist waves of The Bridge and The Blue Rider groups, abstraction, and realism (Milicua, 1994). Fauvism was born based on the use of intense and unnatural colors.

Its main figures are Matisse, Derain, Dufy, and Braque.

The 'revolution of shape' followed in 1910 with Cubism by Picasso and Braque. However, it is not a narrative painting, and as it is undoubtedly not readable, it must be interpreted.

Cubism supposes the definitive establishment of the autonomy of art. It is the multi-perspective, the decomposition of the form. Without a doubt, it invites a reflection on what art itself is. John Golding, one of the greatest writers, appointed it as probably the most important and complete radical artistic revolution since the Renaissance (VV.AA, 2001).

Futurism emerged in 1912 with the manifestos in the plastic arts of Marinetti and the sculptures of Boccioni, Balla, and Gino Severino. Violence, lines, and movement characterized it. It is cubism in movement (Dempsey, 2002). Marinetti's propaganda capacity extolled subversion, and fierce criticism of a series of established values, inciting to break off all ties with the past (Preckler, 2003).

The ideology of Progress of the 19th century and the industrialization of Europe had as a counterpoint the disdain for logic and technique. After World War I, Dada and Surrealism were born. Starting in 1916, Dada was represented by T. Tzara or M. Duchamp, who installed the so-called anti-art. They opposed even the Artistic Vanguard.

With Dada comes the intellectuality, the resignified object. It is rather destructive criticism. Dada is anonymous and collective,

seeking to expand and redefine without attending to the object but to ideas (Daix, 2002).

In 1929 Surrealism and the dream worlds by Miró, Ernst, Dalí, Magritte, or Delvaux, led to Metaphysical Painting and a return to the order of rationality to realism (Preckler, 2003). Surrealism sought to decontextualize and produce wonderful associations. Reality is built by the subject itself or has been built for itself by others. It embraces the language of dreams because they have no meaning. It glorifies love and passion because it is a non-psychotic state that can be described as psychotic.

At the end of the 19th century, narrative painting and academicism were broken (Manet) due to technological change, i. e. photography appeared.

Impressionism was the first artistic movement to rebel against the aesthetic tastes that prevailed at the time. Monet's work: "*Impression, Rising Sun*," mockingly quoted by a critic, gave the group its name. Impressionists considered that sooner or later, their art would end up being recognized for its own merits (Milicua, 1994).

Thanks to new printing technologies and especially influential photography with its discovery of four-color printing, achieving infinite colors with the mixture of primary colors, Neo-Impressionism or Pointillism arises, conducted mainly by two authors, Seurat and Signac. They built on impressionism, but the form had already appeared.

Outside of these two movements are Vincent Van Gogh, Gauguin, and the

subjective view of Toulouse-Lautrec. They were given the artistic-historical term of Post-Impressionists. All three figures had highly innovative in the world.

Cezanne is also worth mentioning as an icon of the line, of the intellect. His painting represents the form, not impression; it is an analytical, rationalized painting. He said that a man has to be in the world to geometrize it, give it shape, and intellectualize it. In opposition to that, with "Starry Night" (Figure 5), in 1889, Van Gogh spoke of color, of emotion, both being two pillars of the avant-garde.

Neither Munch nor Gauguin would seek the form since they did not believe in rationality. Instead, they followed the symbolism where the artist cannot represent what he or she sees because, according to them, it is not art if this is the case. Therefore, for them, a man has to be in the world interpreting symbols.

Due to this heritage, the artistic vanguards will follow two distinctive tracks: the rational one of Seurat, Signac, or Cezanne and the 'form' way that will lead to Cubism, the other being the emotional track of Van Gogh and Gauguin with color, followed by the Fauves and Expressionism.

From the Avant-Garde on, art is not designed to please, and what is more, paintings are about art, not history. The Artistic Vanguards are more an attitude to art than an aesthetic, and they abandoned the imitation of nature to focus on the language of shapes and colors.

It is the hegemony of the unconscious, of the mental reconstruction of the work.

The viewer must have a new attitude toward the work of art. Artistic styles are no longer international and have become characteristic of a group of artists.

Painting and the Avant-Garde will follow two principles. One is the autonomy of art concerning reality in that art is not linked to the represented object. Representation is left to photography and cinema. The other is the abandonment of academicism of pure technique and the pure formula and the appearance of new techniques: collage, photomontage, and valuation of animal drawing.

The development of art is closely related to the development of science, technology, and technique, but also the development of mindset and approach to the world.

Engineering and Bridges

The role of science, applied in technology, technique, and art, is transcendental. In bridges, calculation and beauty go hand in hand (Arenas, 2002). Likewise, bridges built during Artistic Vanguards define hereby authenticity and innovation.

The typology of a bridge is intimately linked to the technology and characteristics of the materials composing it. Thus, the history of bridges can be divided into the period of stone, wood bridges, iron, and concrete bridges. It is worth highlighting almost 2000 years between the two eras.

Metal Bridges of the 19th Century.

Coalbrookdale, built-in 1779, was the first metal bridge made of cast iron. It marked the beginning of a new era, even if it still

suggested the figurative composition of stone bridges.

Wrought iron is a soft and malleable alloy with very low carbon content. As a result, it has low compressive strength and high tensile strength. The first large bridges built with wrought iron were Conway and Britannia. They have been one of the most innovative constructions (Fernández-Troyano, 1999).

At the end of the 19th century, one hundred years after the initiation of metal bridges, steel began to be used to build bridges. An alloy of iron with more carbon than wrought iron but less than cast iron, combining the former's tensile strength with the latter's compressive strength, is one of the important achievements of technology.

The first great bridge whose main structure was made of steel was that of St. Louis over the Mississippi River in the United States, built-in 1874.

From the end of the 19th century, steel imposed itself over iron as a building material. The two great bridges of the turn of the century were the first made of steel: the Brooklyn Bridge and the Firth of Forth Bridge.

Concrete Bridges from the 20th Century.

Reinforced concrete with steel bars or mesh embedded in it offers increased tensile strength for bridges. It appeared at the end of the 19th and was developed at the beginning of the 20th century. The first reinforced concrete bridge was the Chazelet footbridge, built-in 1875.

The Martín Gil Viaduct will be considered the Spanish engineering

masterpiece of the first half of the 20th century. It was a compendium of the most innovative systems of the time. Moreover, it was the largest reinforced concrete arch in the world of its time.

The prestressed concrete was modern, with stretched steel strands embedded to impart additional tensile strength. Nevertheless, it did not make reinforced concrete or metal bridges disappear; each had its field of application. In 1941, Freyssinet started the Luzancy bridge over the Marne river in the middle of the World War.

Composite Bridges for the 21st Century.

The composite structure's innovation incorporates the platform's concrete slab into the resistant structure. It comprises a metallic lower head, webs of the same material, and an upper concrete head connected; steel must resist traction and concrete compression. In this sense, the raceway establishment supposed additional possibilities for metal bridges arising before or simultaneously with the appearance of concrete before the generalization of composite decks (Godard, 1924).

The tests of composite structures began shortly before World War I. After World War II, this system spread throughout the world, with time becoming almost as known as metal or concrete bridges. The German bridge over the Steinbach valley is a pioneering realization ahead of its time. In Spain, after the civil war, important constructions were built by Torroja (Torroja, 2010).

METHODOLOGY

The methodology of this study is based on a comparison of historical developments of art and bridge engineering, looking for a parallel between the milestones and periods of one and the other from the end of the 19th century towards the middle of the 20th century.

The scientific paradigm of Constructivism/Interpretativism is applied from the theoretical perspective and methodology of critical analysis (Crotty, 2012), breaking down the period of Historical Avant-Garde, comparing the different milestones of bridge engineering with artistic movements from the point of view of painting chronologically, always with the special focus and link of progress or technological innovation which principally emerged thanks to the development of science. As an approximation to understand the choice of the historical period, it should be noted that industrial revolutions are understood through the long Kondratieff cycles perspective (Kondratieff, 1935), widely described by Pérez (Freeman & Perez, 1988) or technological paradigm shifts, closely related to Kuhn's scientific revolutions (Kuhn, 2017). The studied period of Artistic Vanguards began after the first and second industrial revolutions. Their vision can be seen in Figure 1 as follows.

A schedule historically reflects the advancement of thought and mindset in terms of the sociotechnical landscape advancements has been drawn up, pointing out the most important milestones of the studied period. It is based on

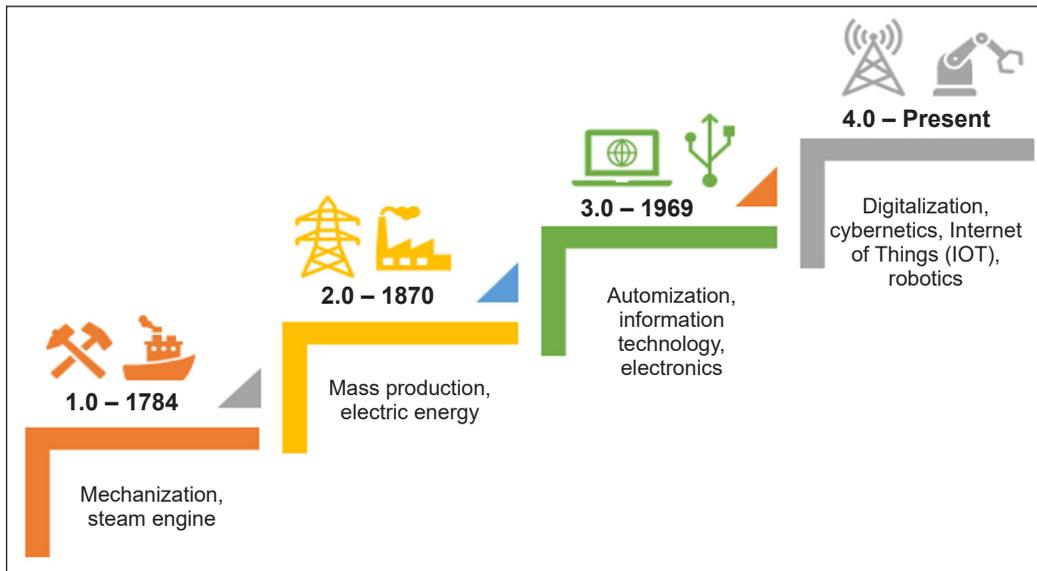


Figure 1. Industrial revolutions

identifying milestones, which are ordered chronologically. Accompanying artistic and technical movements, and new materials, the historical figures that made a difference are named for being the forerunners of this period of rupture and advancement of thought and praxis.

This analysis also follows the conception of different innovation ecosystem actors (Fernández et al., 2019). It is a more structural and collective intelligence-oriented approach to innovation than the romantic vision of an innovative entrepreneur or enterprise, which stems from the more reduced vision of relation dynamics (Schumpeter, 1911). According to this conceptual framework, three principal actors articulate the flow of relations in the innovation ecosystem. ‘Government’ is understood as a provider of physical and legislative infrastructure for the activity of other actors. ‘Academia’ is centered on

the generation and diffusion of knowledge through its research and education functions. ‘Industry,’ in turn, is focused on productive exercise.

It corresponds with the underlying process of innovation developed under the multilevel perspective (Geels, 2010), with the phases of innovation being emergence in diverse niches, incubation, and diffusion towards the sociotechnical regime of socioeconomic reality functioning, and transposition towards the societal mindset at the sociotechnical landscape level. It is a never-ending spinning process, pushed forward by different challenges acknowledged at different levels, but mainly by the mindset of an evolving society.

RESULTS AND DISCUSSION

This study proves that in a century, in the aftermaths of the first and second industrial revolutions, and specifically in

the interwar period, there is an accumulation of great innovations and changes in ways of understanding art and engineering.

In bridge engineering, progress was made notably due to the appearance of new materials, firstly steel and principally reinforced concrete. Likewise, in art, there is a break from what is commonly understood as art due to the introduction of new materials and new forms of expression and interpretation of the creative process.

The history of art has been marked by science and technique, in the sense that many artists have been involved in creating new techniques that finally enabled different ways of expression for them. For example,

creating new pigments, types of paper, or new materials, led to their expressive use. Many times, the discovery and development of these techniques undoubtedly allowed the introduction of new forms of expression.

In engineering, the creative impetus is also linked to discovering new materials that allow expressive advancements.

Following the schedule (Figure 2), the appearance of determining materials in the construction of bridges, such as steel first and reinforced concrete later, coincides with the birth of Impressionism, the first artistic movement to break with tradition or rather with what is established to be seen as art.

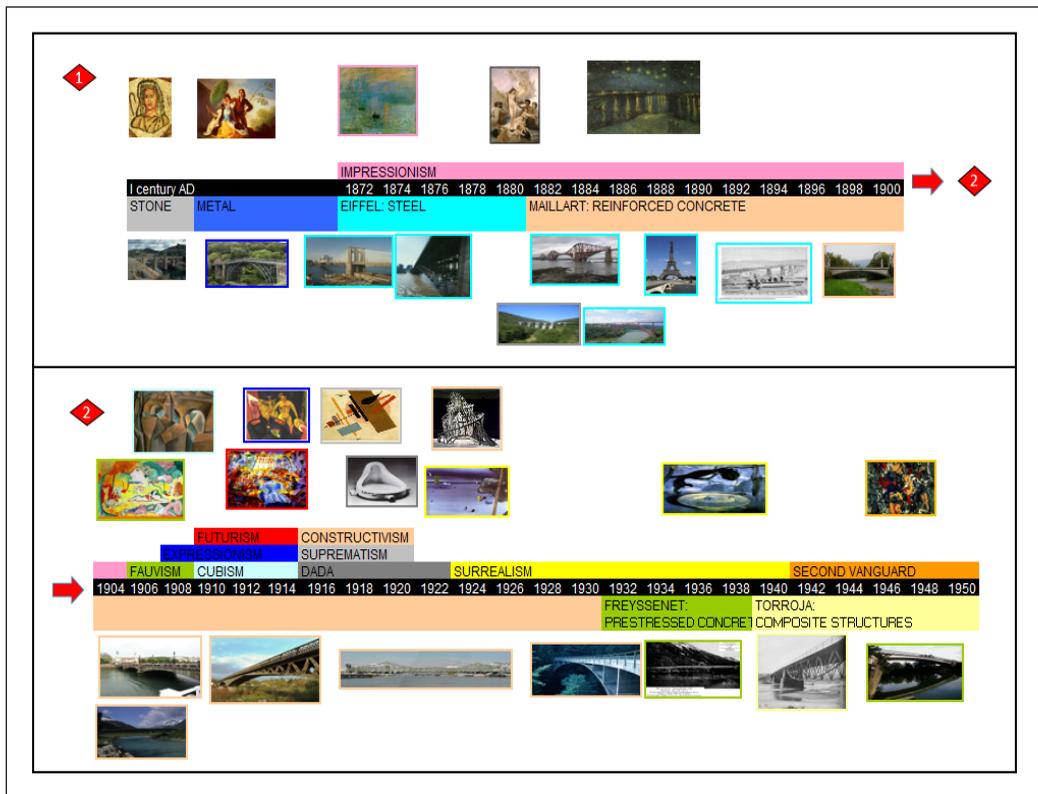


Figure 2. General schedule of artistic vanguards and bridges

Note. Image descriptions and sources are detailed in the partial view figures below

Monet's "*Impression, Sunrise*" focused on capturing reality, the moment, and the impression. Meanwhile, the Brooklyn Bridge by the Roeblings was built (Figure 3, section 2-2). At the time of its inauguration, it was the largest suspension bridge in the world. Like many other engineering works of this period, it has become one of the

city's most recognizable symbols, in this case, New York. It was a record for a span until the Firth of Forth was built in 1889. It is an emblem of 19th-century engineering because of the innovative use of steel as a construction material on a large scale. It was also the first bridge suspended on steel cables.

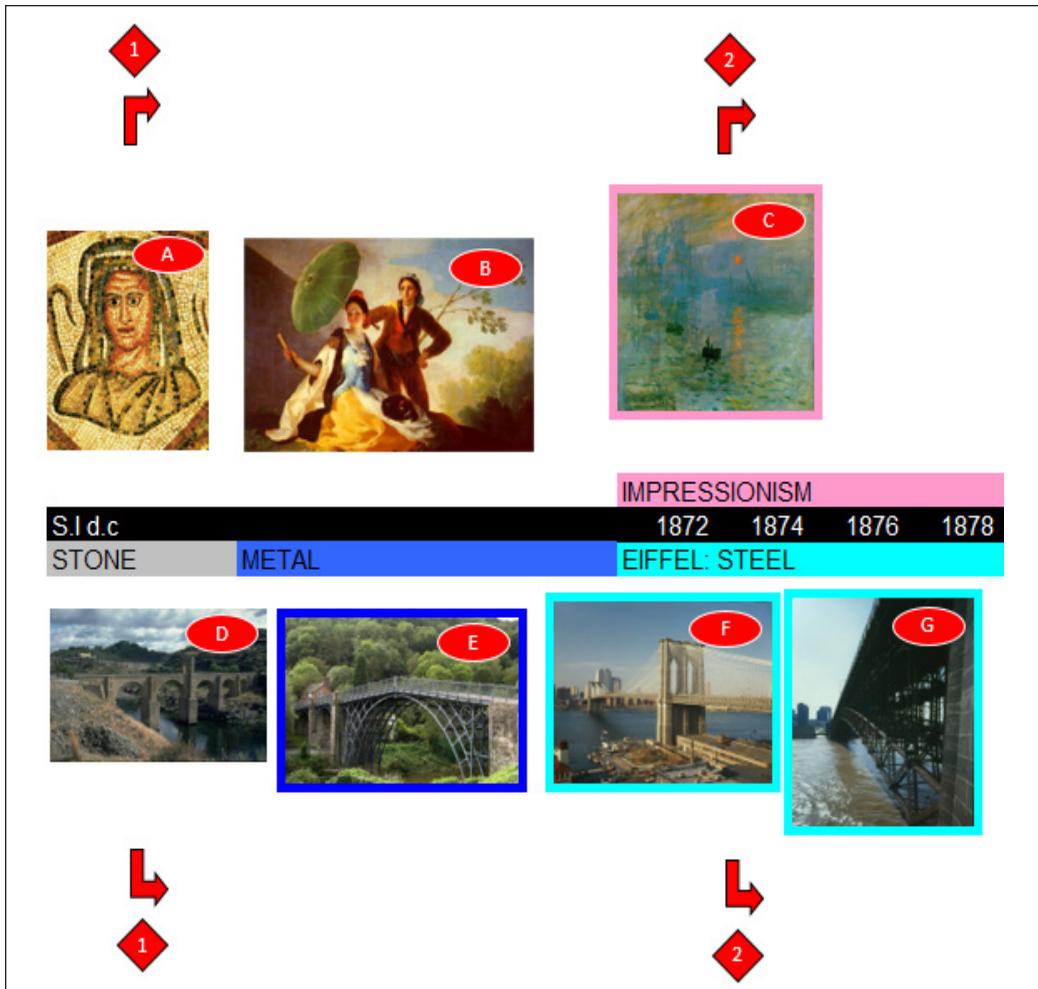


Figure 3. Impressionism and steel

Note. A: Mosaic "Villa Romana La Tejada", Spain. Source: A - www.terranostrum.es/turismo/villa-romana-de-tejada. B: Goya (1777). The Parasol. Source: www.museodelprado.es. C: Monet (1872). Impression, Sunrise. Source: www.artehistoria.com. D: Bridge at Alcántara (Spain, 104-106), E: Ironbridge at Coalbrookdale (England, 1777-1779), F: Suspension Brooklyn Bridge (NY, 1869-1883), G: Eads Bridge (St. Louis, 1874). Source: www.structurae.com

They are even perceived as works of art, an example of that being the Golden Gate. It was inaugurated in 1937 as a display of 20th-century engineering. It was a milestone in the history of San Francisco and has become its most universal image.

Eiffel quickly became famous for his metal structures and is undoubtedly an example of an engineer of his time. He was a creator of symbols. Eiffel Tower is an emblem of France and its capital city. According to Eiffel (Coup erie-Eiffel, 2012), the construction should be strong, durable, elegant, and harmonious. This opinion becomes a catalyst for artistic movements and influences the progress in materials and bridge construction in the case of engineering.

Coalbrookdale led to the spectacular development of bridges in the 19th century. In those years, Goya painted "The Parasol." Goya's art also represented the beginning of contemporary painting (Milicua, 1994), and he is considered a precursor of the pictorial avant-garde of the 20th century.

It can be noted how an eagerness to break with the styles of the past is revealed. The parallelism and the audacity and eagerness to incorporate innovation in art and bridges seem clear; both result from the same need for expression and transcendence.

At the end of the 19th century, tradition, and its representatives, at the time considered true artists, such as Bouguereau (Figure 4, section 3-3), coexisted with transcendental and groundbreaking characters in history, such as Van Gogh or Eiffel.

One hundred eleven years elapsed between the construction of the

Coalbrookdale Bridge and the construction of the Firth of Forth Bridge. It is the same period between "The Parasol" and "Starry Night over the Rhone" that Van Gogh painted in 1888 (Figure 4, section 4-4).

Artistic Vanguards was also the time of those who are understood today as great, global engineers. Due to their comprehensive work ethics, engineers understood projects from multiple perspectives. To translate this approach, they introduced new materials. In a sense, contemporary painters' aspiration was the same. With their transversal work ethics, they captured their thoughts and conception of reality on canvas, going far beyond what was believed and understood then by good technique. The Impressionist Monet and Eiffel, or the Cubist Picasso and Ribera, were all great connoisseurs. Nevertheless, starting from an absolute understanding of the technique and the past paths, they did know how to take another step. They dared not to copy but to transcend the past, to advance, and at the same time, consolidate almost two thousand years of history of art and engineering.

The Avant-garde itself was inaugurated with Fauvism, which questioned art as a representation of reality. It can be seen in Figure 5, sections 5-5, that the trees Matisse painted in "The Joy of Life" can be identified even when there are no pink trees or their shape is different. The painting does not capture reality, but the composition arouses emotions; simultaneously, excitement is captured through spots of color. Isn't art an emotion but science too? (Einstein, 1979). In parallel, Maillart, a truly innovative engineer with a clear aesthetic perception,

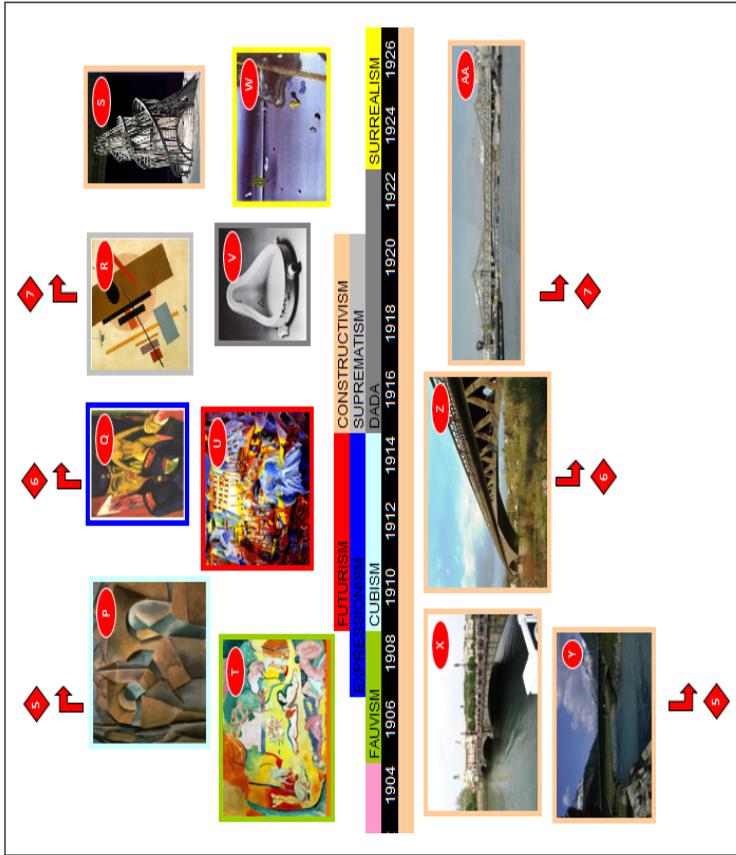


Figure 5. The artistic vanguards and reinforced concrete

Note. P: Picasso (1909). Landscape with a Bridge. Source: www.paintingpalace.com. Q: Kirchner (1915). Self Portrait as a Soldier. Source: www.wikipaintings.org. R: Malevich (1916). Suprematist composition. Source: www.widewalls.ch. S: Tatlin (1919). Model of the monument III International. Source: www.fahrenheitmagazine.com. T: Matisse (1905-1906). The Joy of Life. Source: www.henrimatisse.org. U: Umberto Boccioni (1911), The Street enters the House, V: Marcel Duchamp (1917). Fountain, W: Tanguy (1927). Mama, Papa is Wounded! Source: www.artehistoria.com. X: María Cristina Bridge (Spain, 1904), Y: Zuoz Bridge (Switzerland, 1901), Z: Boutiron Bridge (Vichy, 1912), AA: Ivry-Charenton Industrial and Pedestrian Bridge (France, 1926-1929). Source: www.structurae.com

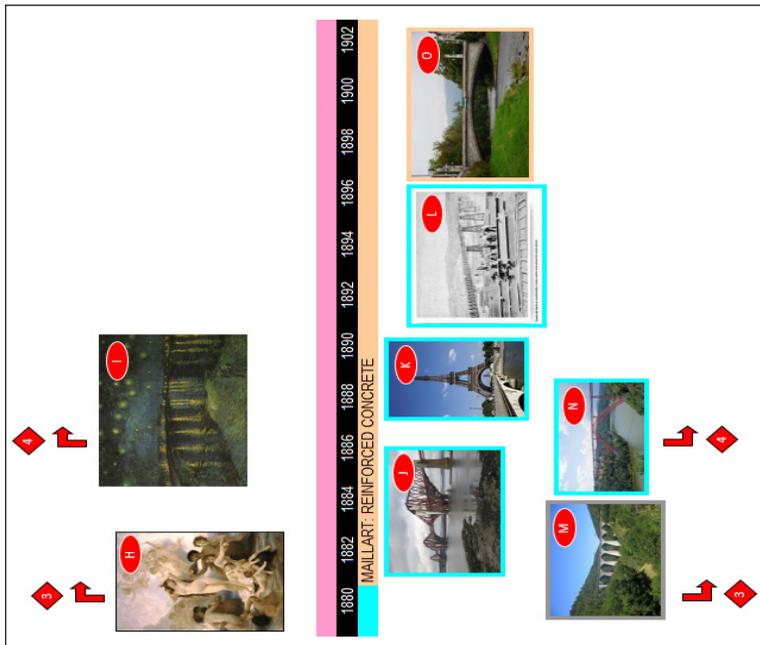


Figure 4. The rupture

Note. H: Bouguereau (1879). The Birth of Venus, I: Van Gogh (1888). Starry Night over the Rhone. Source: www.historia-arte.com. J: Forth Rail Bridge (Edinburgh, 1882-1890), K: The Eiffel Tower (Paris, 1887-1889), N: Garabit Viaduct (France, 1884), O: Stauffacher Bridge (Zurich, 1899). Source: www.structurae.com. L: Hacho Bridge (Spain, 1898). Source: www.puentedelhacho.blogspot.com/2007/09/el-ferrocarril-digital.html. M: Crueize River Viaduct (France 1880). Source: www.wikipedia.org.

collected the constructive and formal analytical heritage of the 19th century and created the tradition of reinforced concrete.

Kirchner, with Nolde and the first German expressionists, chose *Die Brücke*, meaning bridges, for the artistic movement. They intended to encourage overcoming individual artistic isolation from the beginning of the century, to enhance the spirit of collective creation (Figure 5, sections 6–6).

The First World War brought the Fordian model of division of labor into the production line. The car, which was the Ford product, greatly impacted the dimensions of mobility and, thus, the need for bridge construction. The conditions of immediacy and augmented technical requirements accompanied the demand explosion. Also, the beginnings of historical Bauhaus were strongly influenced by the trauma of the First World War and the need to absorb the shocks of the first two Industrial Revolutions. In the aftermath of the First World War, there was a pressing need for housing. It is, therefore, no coincidence that ‘form follows function’ was the main principle of the Bauhaus philosophy. However, it did not mean any form but rather a ‘true form’ that responded to functional requirements (Forgács, 1997). Moreover, industrialized products and houses were to be made culturally (i.e., socially, economically, symbolically, and practically) acceptable. This assumption holds in the present day when environmental sustainability is considered. From an artistic perspective, other recognized contemporary movements

focused on sociocultural transcendence and the transversality of science, arts, and technology. These movements were the roots of recent efforts to unite artists and engineers. *De Stijl*’s movement, in particular, manifested a strong sensitivity toward the social function of art and exerted a decisive. From *De Stijl*’s perspective, art was for everyone, and architecture, as the mother of all arts, had a sacred, almost religious mission to shape life.

The very quality of mass production leads to standardization. Currently, decades after reinforced concrete discovery, the ease of its manufacturing and construction implies that, instead of applying all the knowledge and imagination to bring greater variety to the design of bridges, repetition is the prevailing trend.

The 1930s brought the development of European nationalism, generators of narcissistic withdrawals, and isolation on a collective level. Nevertheless, it is worth noting how, at the same time, it is a period defined by mobility, instability, and the dissolution of mental and physical borders that gave rise to the collective projects’ advancement via exile or the educational or creative journey (Borja-Villel, n.d.).

At the artistic level, and in particular, in painting, a group of nonconformist artists appeared. It was a mixture of ingenuities that dynamited conventions and explored art history with the so-called *avant-gardes*.

Dada (Figure 5, section 7–7) was the most radical of the *Avant-Garde* movements, art for the sake of exhibiting it in a museum (Dewey, 1980). It can be reasoned that the

new inputs were considered because of their 'exposition'. With the Artistic Vanguards first and all the art of the end of the century, the question of what art is reveals itself as very different from what it was until then. It does not seem by chance that one of the artists who most contributed to eliminating intrinsic characteristics from the concept of art, such as Duchamp, dispensing with beauty for beauty's sake, of retinal art that only satisfies the eye, also spoke of bridges; on his way to delve into the art that he makes you think. Reinforced concrete quickly spread throughout Europe thanks to the arch built for the 1880 Düsseldorf Universal Exhibition. It undoubtedly served to publicize this new material. African art from centuries of history was a recurring element in Picasso's work versus the 'Roman stone' of reinforced concrete.

At the end of the 20th century, the theory of conceptual art strengthened the idea that a work of art cannot be understood as something isolated, encapsulated between what divides what is or is not art. From then on, the work of art has to be placed concerning the historical, social, and economic conditions (Graw, 2014). After World War II, Freyssinet's dream was the development of a new technique, the prestressed concrete.

Surrealism developed in that same period, an unstable interwar time in which intellectuals tried to understand the psychic depth of man through dreams. Among dreams were those of Torroja Miret. He was one of the great engineers of his time, a great innovator, creating revolutionary forms never used before. Engineering makes up the

border space between concepts and brings together the territories that do not have clear demarcations, according to one's attempt to understand the world. It champions the four dimensions of intelligence (logic), techné (practice), phronesis (wisdom), and metis (improvisation) (Scott, 1998), as it relies on the engineer's intuition in the different readings of reality; it enables direct work with sensitivity and commonality with art. An example of this in engineering practice was the work of Eduardo Torroja, for whom calculations only served to confirm his intuition. He was a master of reinforced concrete and contributed to composite bridges through what he defined as 'functional reason'. An example is the Tordera bridge (Figure 6, sections 8–8).

There are many examples of arts fascination with science, and new art forms emerge thanks to technology and materials developments. A good example was Salvador Dalí. This artist felt an unprecedented fascination for science: Einstein's theory of time, the uncertainty principle, nuclear physics, and as a surrealist, psychoanalysis. Furthermore, he managed to capture it in his works, merging creation with the main discoveries of the 20th century. The artist regretted that knowledge was too compartmentalized (Ruiz, 2010).

What is understood by functionality when designing can be considered another discussion. However, if anything, the orientation of the profession towards serving society, bearing in mind exclusively economic parameters, forgets that a functional bridge must have an acceptable aesthetic quality.

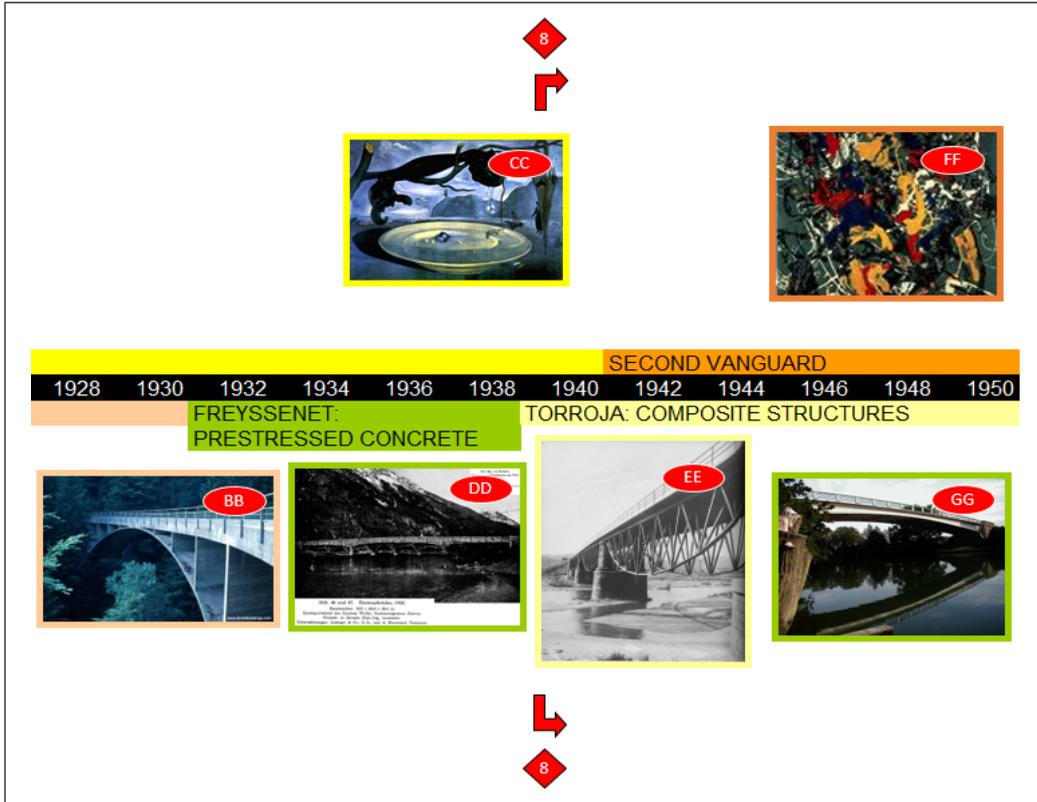


Figure 6. World War II: Prestressed concrete and composite bridges

Note. BB: Schwandbach Bridge (Berna, 1933), DD: Dorénaz Bridge (Switzerland, 1933), EE: Tordera Bridge (Spain, 1939), GG: Bridge over the River Marne (France, 1947-1950). Source: www.structurae.com. CC: Dalí (1939). The Enigma of Hitler. Source: www.obraporobra.com. FF: Pollock (1948). Number 3. Source: www.wikipaintings.org.

In this line of thought, and although it has been discussed repeatedly, it can be considered that there is still room for the analysis of art-engineering dimensions. Throughout history, they have gone hand in hand or diverged. This unequal road traveled together can be seen in the fourth-century Encyclopedia of Liberal Arts by Martianus Capella from the 5th century, which later led to a distinction between the arts of the mind and the hands.

Throughout the avant-garde movements, art tries to locate itself in a separate position,

alienating itself from the other fields of human endeavor. In parallel, Constructivism, with a high political and ideological charge characteristic of the Russian Revolution, sought the union between the arts, painting, sculpture, and architecture. It, therefore, shared a goal with one of the most famous schools in the history of art, the Bauhaus. When understanding art as an expression of beauty, it is striking that the bridge is the construction most represented in the painting of the 20th century (Lanza, 2007).

This study is intended to be a bridge between two worlds: first, that of science and technology, and the other of art and culture, and in this way, bring the artistic vanguards period ideal of innovation into the current era. This historical tendency has been and is supported by many individuals, from Goethe (Goethe, 2002) to Einstein (Allimant, 2009).

CONCLUSION

This article critically reviews the art and engineering of bridges in the first half of the 20th century. As demonstrated, it is a historical moment where the expression of thought was directed with special intensity towards innovation. The choice of this historical period can be traced back to its wealth of breakthroughs in painting and bridge construction. Moreover, it served as a kernel for identification when these leaps brought a virtuous cycle of innovations.

The theoretical approach is articulated through a multilevel perspective, including the social malleability of technology. Likewise, the chosen period is located within the industrial and scientific revolutions. Therefore, they were relevant because of the direct change due to concrete technological innovation and the generation of indirect changes related to art transcending different societal levels.

Different milestones were chronologically compared following the common thread of the Artistic Vanguards. Specifically, in this interwar period, radical, disruptive innovation occurred in art and engineering. New tools for the development

of creative impetus were sought. New figurative or material means were found, such as concrete in bridges.

Both the art and engineering of bridges have taken a parallel course, though, mainly but not only technological innovations. The Impressionist Monet and Eiffel, or the Cubist Picasso and Ribera, were great connoisseurs of the past. However, they dared to go one step further, to advance and simultaneously consolidate almost two thousand years of transversal history of art and engineering.

Analyzing the artistic vanguards, we can think that engineering innovation will also do so based on the relational character, the principles of transversality, and environmental and social sustainability. It is to absorb the impact and overwhelming cultural consequences of the subsequent two or three industrial revolutions, the last being sustainability. It should keep its position away from the dividing lines between disciplines and its idea of closeness between the functional and the aesthetic.

The sociotechnical regime, the main structure of economic and social functioning, tends to 'harden' to resist change, recoiling from radical or disruptive innovation to an incremental one. In the case of bridge engineering, knowledge of the regulations, their functioning, and construction methods retract towards repetition, incremental instead of radical innovation, as was the case of concrete discovery. There is a tendency to settle due to knowledge value chains, with suboptimal lock-ins and at least transitory rejection of new technology.

The sociotechnical landscape, hereby the art level, constitutes an exogenous environment beyond the direct influence of the regime actors. Nevertheless, it influences mindsets and allows the creation of a niche, thus fostering innovation.

It would be interesting to delve into new studies on why different artists have defined art as the engine of knowledge. From Paul Klee to Nacho Criado (National Prize for Plastic Arts, Spain 2009), the representation of anti-art, ante-exhibition, and a continuation of Dadaism can be found buzzing.

Art and engineering are, therefore, engines that can explain the world itself. They document society and its way of living, each of them expressing it in its unique way. They convey the evolution of human thought and endeavor, leveraging collective intelligence. From this transversal perspective, it is possible to spearhead the concept of STEAM (Science, Technology, Art, Mathematics) in education practice and research. A new educational system is required. It is a fact that people are overcoming the test of a new world with the education they received, far from what is required in today's world. In this new education, there must be a deeper interrelation between disciplines and art. On the other hand, the indefinite progress ideology is overcome through sustainable development. The cybernetic revolution has fragmented the previous world of objects in which the artistic vanguards developed. It is the society in which all the approaches are expected for the new revolution. Technology at the service of human happiness, freeing

ourselves from repetitive tasks, which are now assumed by machines, is the result of this successive automation. The objective must be to reconcile the benefits and progress with sustainability, care for the environment, and respect for human rights.

This study pretends to broaden the vision of engineers and artists, encouraging them to take advantage of the potential of transversality. The fourth and, to some, even fifth (sustainability) industrial revolutions are already operating at different levels, disrupting almost all sectors of society. With concepts such as sustainable mobility, the new and inspiring field of bridge engineering, including aerial ones, can be envisioned. Art opens the ways of the imagination, valid also for engineers. It would be stimulating to apply this approach to different epochs.

In this study, art and engineering are placed at two levels in the innovation multilevel perspective. It would be inspiring to continue working on the concepts of artistic expression and how engineering can be considered a work of art.

It is necessary to study the history of civil engineering, public works, and their heritage as foundations to conduct the evolution of professional ethics. Humanities are not contrary to the techniques. On the contrary, their transversal, historical analysis, is compatible and complementary. Likewise, it is worth reflecting on the social ethos of the engineer. Hopefully, engineering ethics can be recomposed, choosing its heritage as a starting point in the evolution toward new cultural dimensions.

There is little or no presence of women in the development of trends, both artistic in painting and technical in bridge engineering. As a line of future research, it could be highly recommended to revisit the role of women in innovation, thus expanding the evolution of the social mindset.

It is also necessary to review the concept of environmental sustainability and its applicability in the construction of bridges and, why not, in art.

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INSTRUCTIONS TO AUTHORS

(REGULAR ISSUE)

(Manuscript Preparation & Submission Guide)

Revised: December 2020

Please read the *Pertanika* guidelines and follow these instructions carefully. The Chief Executive Editor reserves the right to return manuscripts that are not prepared in accordance with these guidelines.

MANUSCRIPT PREPARATION Manuscript Types

Pertanika accepts submission of mainly 4 types of manuscripts

- that have not been published elsewhere (including proceedings)
- that are not currently being submitted to other journals

1. Regular article

Regular article is a full-length original empirical investigation, consisting of introduction, methods, results, and discussion. Original research work should present new and significant findings that contribute to the advancement of the research area. *Analysis and Discussion* must be supported with relevant references.

Size: Generally, each manuscript is **not to exceed 6000 words** (excluding the abstract, references, tables, and/or figures), a maximum of **80 references**, and **an abstract of less than 250 words**.

2. Review article

A review article reports a critical evaluation of materials about current research that has already been published by organising, integrating, and evaluating previously published materials. It summarises the status of knowledge and outlines future directions of research within the journal scope. A review article should aim to provide systemic overviews, evaluations, and interpretations of research in a given field. Re-analyses as meta-analysis and systemic reviews are encouraged.

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Each article should be timely and brief. It is suitable for the publication of significant technical advances and maybe used to:

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Brief reports, case studies, comments, concept papers, letters to the editor, and replies on previously published articles may be considered.

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Example (page 2):

The Mediating Role of Cognitive Emotion Regulation Strategies in the Development of Social Behavior among Adolescents

Samsilah Roslan^{1*}, Noorhayati Zakaria², Siaw Yan-Li³ and Noorlila Ahmad¹

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List of Table/Figure: Table 1.

Figure 1.

Page 3: Abstract

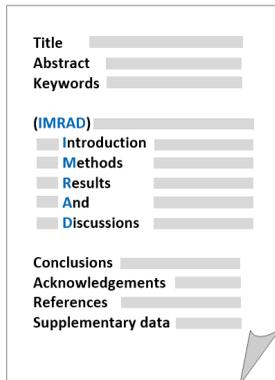
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Most scientific papers are prepared according to a format called IMRAD. The term represents the first letters of the words Introduction, Materials and Methods, Results, And, Discussion. It indicates a pattern or format rather than a complete list of headings or components of research papers; the missing parts of a paper are: Title, Authors, Keywords, Abstract, Conclusions, and References. Additionally, some papers include Acknowledgments and Appendices.

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Journal article with missing information	<p>Information prominent' (the author's name is within parentheses): ... (Bajaj et al., 2014) (Jdaitawi, 2015) (Nastasa & Farcas, 2015) ...</p>	<p>Missing volume number Bajaj, G., Deepa, N., Bhat, J. S., D'Souza, D., & Sheth, P. (2014). Self-efficacy and verbal fluency — does age play a role? <i>Healthy Aging & Clinical Care in the Elderly</i>, (6), 17-24. http://dx.doi.org/10.4137/HACCE.S14292</p>

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		Missing page or article number Jdaitawi, M. (2015). Social connectedness, academic, non-academic behaviors related to self-regulation among university students in Saudi Arabia. <i>International Education Studies</i> , 8(2). https://doi.org/10.5539/ies.v8n2p84
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Newspaper		
Newspaper article – with an author	... (Davidson, 2018) ...	Davidson, J. (2018, January 9). CES 2018: Samsung vows to add artificial intelligence to everything it does. <i>Australian Financial Review</i> . https://www.afr.com/technology/ces-2018-samsung-vows-to-add-artificial-intelligence-to-everything-it-does-20180109-h0fdtd
	Or ... Davidson (2018) ...	
Newspaper article – without an author	("Economics nudging," 2017).	Economics nudging people away from war. (2017, December 16). <i>The Age</i> , 33.
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Dissertation/Thesis		
Published Dissertation or Thesis References	... (Solomon, 2016) ...	Solomon, M. (2016). <i>Social media and self-evaluation: The examination of social media use on identity, social comparison, and self-esteem in young female adults</i> [Doctoral dissertation, William James College]. ProQuest Dissertations Publishing. https://search.proquest.com/openview/7d66a63f277a84a64907db68ff991ba/1?pq-origsite=gscholar&cbl=18750&diss=y
	Or ... Solomon (2016) ...	
Unpublished Dissertation or Thesis References	... (Curry, 2016) ...	Curry, J. (2016). <i>A guide to educating single mothers about early gang intervention and prevention</i> (Unpublished Master's thesis). Pacific Oaks College.
	Or ... Curry (2016) ...	
Conference/Seminar Papers		
Conference proceedings published in a journal	... (Chaudhuri et al., 2017) ...	Chaudhuri, S., & Biswas, A. (2017). External terms-of-trade and labor market imperfections in developing countries: Theory and evidence. <i>Proceedings of the Academy of Economics and Economic Education</i> , 20(1), 11-16. https://search-proquest-com.elibrary.jcu.edu.au/docview/1928612180?accountid=16285
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Online	... (McDonald et al., 2019) ... Or ... McDonald et al. (2019) ...	McDonald, E., Manassis, R., & Blanksby, T. (2019, July 7-10). <i>Peer mentoring in nursing - Improving retention, enhancing education</i> [Poster presentation]. STARS 2019 Conference, Melbourne, Australia. https://unistars.org/papers/STARS2019/P30-POSTER.pdf
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8. General Guidelines

Abbreviations: Define alphabetically, other than abbreviations that can be used without definition. Words or phrases that are abbreviated in the *Introduction* and following text should be written out in full the first time that they appear in the text, with each abbreviated form in parenthesis. Include the common name or scientific name, or both, of animal and plant materials.

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