

Pertanika Journal of
**SOCIAL SCIENCES
& HUMANITIES**

JSSH

VOL. 32 (4) DEC. 2024



PERTANIKA
JOURNALS

A scientific journal published by Universiti Putra Malaysia Press

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 Sciences & 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—architecture and habitat, consumer and family economics, consumer law, education, media and communication studies, political sciences and public policy, population studies, psychology, sociology, and tourism; Humanities—arts and culture, dance, language and linguistics, literature, music, philosophy, 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

Originality

The author must ensure that when a manuscript is submitted to *Pertanika*, the manuscript must be an original work. The author should check the manuscript for any possible plagiarism using any program such as Turn-It-In or any other software before submitting the manuscripts to the *Pertanika* Editorial Office, Journal Division.

All submitted manuscripts must be in the journal's acceptable **similarity index range**:
≤ 20% – PASS; > 20% – REJECT.

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.

Pertanika Journal of Social Sciences and Humanities: e-ISSN 2231-8534 (Online).

Lag time

A decision on acceptance or rejection of a manuscript is reached in 120 days (average). The elapsed time from submission to publication for the articles averages 180 days.

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).

Editorial process

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.
6. When the reviewers have completed their work, the Editor-in-Chief examines their comments and decides whether the manuscript is ready to be published, needs another round of revisions, or should be rejected. If the decision is to accept, the Chief Executive Editor is notified.
7. The Chief Executive Editor reserves the final right to accept or reject any material for publication, if the processing of a particular manuscript is deemed not to be in compliance with the S.O.P. of *Pertanika*. An acceptance notification is sent to all the authors.
8. 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.

Pertanika Journal of
**SOCIAL SCIENCES
& HUMANITIES**

Vol. 32 (4) Dec. 2024



A scientific journal published by Universiti Putra Malaysia Press

EDITOR-IN-CHIEF

Puvaneswaran Kunasekaran
*Community-Based Tourism,
Indigenous Tourism, Sustainability*

CHIEF EXECUTIVE EDITOR

UNIVERSITY PUBLICATIONS COMMITTEE

CHAIR

Zamberi Sekawi

EDITORIAL STAFF

Journal Officers:

Ellyianur Puteri Zainal
Kanagamaral Silvarajoo
Siti Zuhaila Abd Wahid
Tee Syin Ying

Editorial Assistants:

Ku Ida Mastura Ku Baharom
Siti Juridah Mat Arip
Zulinaardawati Kamarudin

English Editor:

Norhanizah Ismail

PRODUCTION STAFF

Pre-press Officers:

Nur Farrah Dila Ismail
Wong Lih Jiu

WEBMASTER

IT Officer:

Illii Najwa Mohamad Sakri

EDITORIAL OFFICE

JOURNAL DIVISION

Putra Science Park
1st Floor, IDEA Tower II
UPM-MTDC Technology Centre
Universiti Putra Malaysia
43400 Serdang, Selangor Malaysia.
General Enquiry
Tel: +603 9769 1622 | 1616
E-mail:
executive_editor.pertanika@upm.edu.my
URL: www.journals-jd.upm.edu.my

PUBLISHER

UPM PRESS

Universiti Putra Malaysia
43400 UPM, Serdang, Selangor, Malaysia.
Tel: +603 9769 8855 | 8854
Fax: +603 9679 6172
E-mail: penerbit@upm.edu.my
URL: <http://penerbit.upm.edu.my>



ASSOCIATE EDITORS 2023-2026

Gabriele Santoro
*Innovation Management, Open Innovation, Social Innovation,
Knowledge Management*
University of Turin, Italy

Pornpisanu Promsivapallop
Hospitality, Tourism, Marketing, Tourist Behaviour
Prince of Songkla University, Phuket Campus, Thailand

Ricardo Rodrigues
Health Economics, Health and Care Inequalities, Long-Term Care, Ageing
Universidade de Lisboa, Portugal

EDITORIAL BOARD 2023-2026

Ahmad Fauzi Mohd Aiyob
*Information Technology,
Multimedia in Education*
Universiti Putra Malaysia, Malaysia

Ashutosh Muduli
Human Resource Management
Pandit Deendayal Energy
University, India

Chan Mei Yuit
*Applied Linguistics, English
Languages for Specific Purposes,
Discourse Studies*
Universiti Putra Malaysia, Malaysia

Chuah Hui Wen
*Consumer Empowerment, Family
Economics Behavior, well-being,
Ageing, Silver Consumer*
Universiti Kebangsaan Malaysia,
Malaysia

Corina Debora Riantoputra
*Industrial and Organizational
Psychology*
Universitas Indonesia, Indonesia

Diogo Guedes Vidal
*Society/Nature relations,
Sociology of Environment,
Environmental Health, Urban
Nature*
University of Coimbra, Portugal

Elistina Abu Bakar
Consumer Law
Universiti Putra Malaysia, Malaysia

Kizito Uyi Eghiamusoe
*Financial Economics, Energy
Economics, Macroeconomics,
Applied Econometrics*
University of Southampton
Malaysia, Malaysia

INTERNATIONAL ADVISORY BOARD 2024-2027

Barbara Wejnert
*Political Sociologist: Gender
Studies, Macro Political and Social
Changes*
University at Buffalo, SUNY, USA

Dian Ratna Sawitri
*Adolescent and Adult Career
Development, Work and
Organisational Psychology*
Universitas Diponegoro,
Indonesia

Gary Neil McLean
*Organization Development,
National and International
Human Resource Development*
National Institute of Development
Administration, Thailand

Li Fengliang
*The Economics of Education, The
Economics of Open and Distance
Education, Graduate Education,
The Relationship Between
Education and The Labor Market*
Tsinghua University, China

Md Abdur Rahman Forhad
*Education Economics, Education
Policy, Development Economics,
and Applied Econometrics*
Dhaka University of Engineering
and Technology, Bangladesh

Melanie Carol Brooks
*School leadership, management,
and Administration*
Edith Cowan University

Mohamad Fazli Sabri
*Consumer Finance, Consumer
Behavior*
Universiti Putra Malaysia, Malaysia

Mohd Faizal Kasmani
*Political Communication, Social
Media and Communication*
Universiti Sains Islam Malaysia,
Malaysia

Moussa Pourya Asi
*Migration and Diaspora Studies,
Literary Studies, Gender and Race
Studies, Memoir, Life Writing*
University of Oulu, Finland

Muhammad Danial Azman
*Conflict resolution, Political
theory and political philosophy,
International Relations*
Universiti Malaya, Malaysia

Eduardo Tomé
*Economics, HRD, Knowledge
Management, Intellectual Capital,
Social Policy, International
Economics*
Universidade Lusófona, Portugal

Handoyo Puji Widodo
*English Language Teaching, ESP,
Language Curriculum-Materials
Design and Development, and
Language Methodology*
English Language Center, Shantou
University, China

Hélder Silva Lopes
*Tourism, Urban Tourism,
Bioclimatology, Urban Climate,*
Climate Change
University of Minho, Portugal

Sarjit Singh Darshan Singh
Anthropology and Sociology
Universiti Putra Malaysia, Malaysia

Vahid Jafari-Sadeghi
*International Entrepreneurship, Internationalisation, Entrepreneurship,
Innovation and Technology*
Aston University, United Kingdom

VijayaLectumy Subramaniam
Language Acquisition and Learning
Universiti Putra Malaysia, Malaysia

Novel Lyndon
*The Economics of Development,
Boundary Studies, Indigenous
Studies, Ethnicity and Identity,
Medical Sociology*
Universiti Kebangsaan Malaysia,
Malaysia

Nurahimah Mohd Yusoff
*Curriculum Development, Teacher
Education, Professional Teacher
Development*
Universiti Utara Malaysia

Raihanah Mohd Mydin
*Literary Studies, Minority Fiction,
Muslim Diaspora*
Universiti Kebangsaan Malaysia,
Malaysia

Salinah Ja'afar
*Linguistics structure, Malay
Language, Lexicography*
Universiti Malaya, Malaysia

Sanmugam Annamalah
*Economics, Entrepreneurship,
Banking*
SEGI University, Malaysia

Sharifah Azizah Haron
*Consumer Empowerment, Family
Economics Behavior, Well-Being,
Ageing, Silver Consumer*
Universiti Putra Malaysia, Malaysia

S. Mostafa Rasoolimanesh
Sustainable Tourism
Edith Cowan University, Australia

S. M. Mostafa Kamal
*Demography and Public Health,
Socioeconomic Inequalities*
Islamic University, Bangladesh

Ibrahim Kabiru Maji
Energy and Financial Economics
Air Force Institute of Technology,
Nigeria

Ly Slesman@Sulaiman Mohd Aliis
*Development Economics, Applied
Econometrics, Political Economics,
International Economics*
Universiti Brunel Darussalam,
Brunei Darussalam

Pal Ahluwalia
*African Studies, Social and
Cultural Theory, Post-colonial
Theory*
University of Portsmouth, UK

Suhardi Maulan
*Environmental Behavior, Visual
Quality, Landscape Theory and
History, Green Infrastructure,
Landscape Governance*
Universiti Putra Malaysia, Malaysia

Tey Nai Peng
*Social Sciences, Population and
Demographic Studies*
University of Malaya, Malaysia

Ting Su Hie
*Sociolinguistics, Academic writing,
Strategic competence, Applied
linguistics*
Universiti Malaysia Sarawak,
Malaysia

Wan Amizah Wan Mahmud
*Film Censorship, Communication
Policy, Media System, Subtitling,
Translation*
Universiti Kebangsaan Malaysia,
Malaysia

Yothin Sawangdee
Population and Social Research
Mahidol University, Thailand

Victor T. King
*Anthropology/Southeast Asian
Studies*
White Rose East Asia Center,
University of Leeds, United
Kingdom

Zalina Shari
*Architecture, Sustainable Building
Rating System*
Universiti Putra Malaysia, Malaysia

ABSTRACTING AND INDEXING OF PERTANIKA JOURNALS

The journal is indexed in Clarivate Web of Science (JCR-ESCI), SCOPUS (Elsevier), BIOSIS, Google Scholar, MyCite, ISC. In addition, Pertanika JSSH is recipient of "CREAM" Award conferred by Ministry of Higher Education (MoHE), Malaysia.

Pertanika Journal of Social Sciences & Humanities
Vol. 32 (4) Dec. 2024

Contents

Foreword <i>Chief Executive Editor</i>	i
The Break-up Experience of Romantic Relationship and Post-traumatic Growth Among Vicenarian Adults <i>S Subatraa Subramaniam, Asong Joseph, Mimi Fitirana, Walton Wider and Surianti Lajuma</i>	1247
Psychosocial Experience of Patients with Diabetes Mellitus: An Interpretative Phenomenological Analysis <i>Zaqqi Ubaidillah, Ratna Wulandari and Faqih Ruhyanudin</i>	1267
Validation and Reliability of the Revised Manipal Inventory of Academic Stress (MIAS) Among Higher Secondary Students in Karnataka, India <i>Anirudh Ramesh, Shreemathi Sureshramana Mayya, Maxie Martis and Arun Mayya</i>	1281
Sexual Identity Development of Sexual-and-Gender Minority Among Malay Women in Malaysia <i>Sharifah Zubaidiah Syed Jaapar, Rosediani Muhamad, Asrenee Ab Razak, Mujahid Bakar, Rafidah Hanim Mokhtar and Azlina Ishak</i>	1301
The Cohort Effect on Collective Memory of COVID-19 Among Malaysians: A Repeated Cross-sectional Study <i>Hasrina Mustafa, Izzal Asnira Zolkepli, Azizul Halim Yahya and Athera Abdul Ghauth</i>	1325
Psychometric Properties of the Strength-based Parenting Questionnaire Parent-version in Malaysia <i>Clarisse Roswini Kalaman, Norhayati Ibrahim, Choy Qing Cham, Meng Chuan Ho, Yan-Li Siaw, Amira Najiha Yahya and Ching Sin Siau</i>	1345
An Acoustic Study on the Citation Tones in Malaysian Mandarin <i>Xin Ren and Poh Shin Chiew</i>	1367
The Storytellers: In-depth Interviews with Malaysian Documentary Filmmakers <i>Raja Rodziah Raja Zainal Hassan, Huey Pyng Tan and Eu Choong Chong</i>	1391

Science Teachers' Pedagogical Orientations Versus Students' Preferred Orientations in Pakistan <i>Fayyaz Ahmad Faize and Nada Ibrahim Alribdi</i>	1415
Measuring Spatial Ability: Analysis of Spatial Ability Test for Gulf State Students Using Item Response Theory <i>Mohammed Al Ajmi, Siti Salina Mustakim, Samsilah Roslan and Rashid Almehrzi</i>	1433
Humanistic Learning and Technological Approaches in Indonesian Tourism Vocational High Schools <i>Akhyar Rido, Bagus Hary Prakoso, Analiza Liezl Perez-Amurao, Mariati Purba and Heni Waluyo Siswanto</i>	1451
Fostering Edupreneurship Among Students as a Social and Cultural Practice: A Case Study in the German Department at Universitas Negeri Malang <i>Desti Nur Aini, Muhammad Iqbal Ikhsani, Erin Alida Damayanti and Iwa Sobara</i>	1477
Swiftlet Farming Industry—A White Gold in the Malaysian Housing Market? <i>Nurul Hana Adi Maimun and Yeong Ka Choon</i>	1507
Determinants of Instructors' Intention to Stay in First Generation Public Universities in Ethiopia: Management and PRs Perspective <i>Tesfaye Gebeyehu Tessema and Salilew Abebe Yadeta</i>	1523
The Effects of SMIs' Source Credibility on Consumers' Intention to Purchase Local Cosmetic Products Through Attitude Towards Advertisements <i>Bernadine Adel Sitorus, Sylvia Nabila Azwa Ambad and Cynthia Robert Dawayan</i>	1547
<i>Review Article</i>	
The Effectiveness of Blended Learning in the UAE Secondary Schools—Literature Review <i>Haifaa Yousef Abuhassira, Ahmad Zabidi Abdul Razak and Kazi Enamul Hoque</i>	1579
Improving English Speaking Proficiency Among Non-English Major Learners in Malaysia Through Mobile Language Learning Applications <i>Jonaline John and Yueh Yea Lo</i>	1599

**Selected papers from the 12th Malaysia International Conference on Languages,
Literatures and Cultures (MICOLLAC 2023)**

Guest Editors: Vahid Nimehchisalem and Chan Mei Yui

- | | |
|---|------|
| Metacognitive Strategies and Writing Proficiency: Mediating Role of
Critical Thinking Skills in Online Learning Mode During COVID-19
<i>Xiaolei Shen, Lilliati Ismail and Joanna Joseph Jeyaraj</i> | 1619 |
| Students' Perceptions of Evaluative Judgement in Technology-mediated
Dialogic Peer Feedback
<i>Xiao Xie, Mei Fung Yong, Ngee Thai Yap and Vahid Nimehchisalem</i> | 1643 |
| Representation of Social Actors in COVID-19 Speeches by Southeast
Asian Political Leaders
<i>Anis Shahira Bazlan and Amirah Athirah Amir Yazid</i> | 1661 |

Foreword

Welcome to the fourth issue of 2024 for the *Pertanika Journal of Social Sciences and Humanities (PJSSH)*!

PJSSH is an open-access journal for studies in the field of 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 20 articles; one review article; and the rest are regular articles. The authors of these articles come from different countries namely Ethiopia, India, Indonesia, Kingdom of Saudi Arabia, Malaysia, Oman, Pakistan and Thailand.

A regular article titled “Validation and Reliability of the Revised Manipal Inventory of Academic Stress (MIAS) among Higher Secondary Students in Karnataka, India” sought to validate the revised MIAS, specifically developed to assess the stressors encountered by higher secondary students in the study location. The study findings, intended to be theory testing, underscore the MIAS’s efficacy as a screening tool for academic stress in the Indian educational context. The detailed information of this article is presented on page 1281.

An article entitled “The Storytellers: In-depth Interviews with Malaysian Documentary Filmmakers” explores the creative processes in producing historical documentaries based on interviews with Malaysian filmmakers Lau Kek-Huat, Amir Muhammad, Fahmi Reza, Harun Rahman, and Lara Ariffin. Findings revealed that the filmmaker’s role as a storyteller is critical for preserving and highlighting people’s history and educating the audience, particularly Malaysia’s younger generation, to ensure that history is not lost and forgotten. Further details of the study can be found on page 1391.

Tesfaye Gebeyehu Tessema and Salilew Abebe Yadeta investigated the Determinants of Instructors’ Intention to Stay in First Generation Public Universities in Ethiopia: Management and PRs Perspective. The focus is on variables determining intention to stay (IS) in First Generation Universities (FGUs). The results revealed that the perceived internal University image (UI) of FGUs, job satisfaction (JS), communication source satisfaction (CS), and organizational citizenship behavior (OCB) uniquely determine IS in FGUs. The detailed information of this article is presented on page 1523.

In the last 12 months, of all the manuscripts peer-reviewed, 18% 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

executive_editor.pertanika@upm.edu.my

The Break-up Experience of Romantic Relationship and Post-traumatic Growth Among Vicenarian Adults

S Subatraa Subramaniam¹, Asong Joseph^{2*}, Mimi Fitirana³, Walton Wider⁴ and Surianti Lajuma⁵

¹*Faculty of Arts & Science, International University of Malaya-Wales, 50480 Kuala Lumpur, Malaysia*

²*Faculty of Education and Humanities, UNITAR International University, 47301 Petaling Jaya, Selangor, Malaysia*

³*Faculty of Behavioural Sciences, HELP University, 50490, Kuala Lumpur, Malaysia*

⁴*Faculty of Business and Communications, INTI International University, 71800 Negeri Sembilan, Malaysia*

⁵*Faculty of Arts and Sciences, Universiti Utara Malaysia, 06010 Bukit Kayu Hitam, Kedah, Malaysia*

ABSTRACT

This paper explains the breakup experiences of romantic relationships, coping strategies, and post-traumatic growth (PTG) among vicenarian adults. It employed a qualitative-based research design using a phenomenological method. Snowball and purposive sampling methods were used to select seven participants with a background of romantic relationship breakup experience within two years. Semi-structured interviews were conducted to collect participant data, and data were analyzed using a thematic analysis procedure. This study found that romantic relationships included understanding of love, utmost happiness in love, and need in love. In contrast, breakups indicated decision-making, emotional impact, and self-blame. Besides, the result also reported that the coping methods involved emotional engagement and acceptance state (duration taken to overcome the emotions). After a romantic relationship breakup, self-growth was found more in personal strength, close relationships, new possibilities, spiritual development, and greater appreciation of life as

PTG implications. The findings concluded that breakup-experienced participants coped through the grief process and enhanced their self-growth. This study helped to create awareness among society to view their grief as a growth-oriented process.

ARTICLE INFO

Article history:

Received: 10 October 2023

Accepted: 22 August 2024

Published: 16 December 2024

DOI: <https://doi.org/10.47836/pjssh.32.4.01>

E-mail addresses:

tarasubatraa@gmail.com (S Subatraa Subramaniam)

song.aj24@gmail.com (Asong Joseph)

mimi.f@help.edu.my (Mimi Fitirana)

walton.wider@newinti.edu.my (Walton Wider)

surianti.lajuma@uum.edu.my (Surianti Lajuma)

* Corresponding author

Keywords: Breakup experience, coping mechanism, mental health, post-traumatic growth, romantic relationship, stages of grief

INTRODUCTION

Malaysian young adults aged between 18 and 29 were found to be more prone to committing suicide due to various mental health issues (Chua & Rao, 2021). Particularly at this age when they have personally experienced romantic dissolution or breakup (McKiernan et al., 2018). Although the negative effects of such relationships are well-known, breakups have not been widely discussed (Norona et al., 2017). A survey conducted by Field in 2017 revealed that experiencing a romantic breakup can harm one's emotional and physical health. Some of these include revenge or anger, overreactions, and substance abuse.

According to Franklin (2015), individuals who have broken up can then start to follow the three main paths: recovery, resilience, and chronic dysfunction. Chronic dysfunction can cause various mental health issues like depression and anxiety. In addition, it can trigger post-traumatic stress by causing symptoms such as avoidance and denial. Despite how painful it can be, breakups can still lead to positive outcomes like post-traumatic growth, especially when coping techniques are utilized properly. This growth can explain how freedom, comfort, and relief can be felt following a break-up. Although post-traumatic growth is not a cure for all situations, it can help individuals develop a stronger sense of resilience and manage their stress levels (Logan et al., 2021).

There has been a rising number of suicides and depression among young adults due to the increasing number of breakups.

It suggests that the current mental health measures are ineffective at preventing these issues (Mofatteh, 2020). A lack of knowledge about coping mechanisms and grief can prevent people from enjoying life (Gongora & Vásquez-Velázquez, 2018). Due to the limited research on the effects of breakups on growth (Kansky & Allen, 2018), the main purpose of this study was to accumulate testimony while identifying the types of effective coping methods that contribute to experiencing post-traumatic growth.

Present Study

This study focuses on exploring the experiences of romantic relationship breakups and post-traumatic growth among vicenarian adults. Specifically, it aims to explore the dynamics of romantic relationships and breakups within this age group, to identify the coping methods employed by vicenarian adults during a breakup, and to expose vicenarians' perception of their self-growth following a romantic relationship breakup.

Underpinning Theory

The Stages of Grief Model by Kübler-Ross (1970), the Transaction Model of Stress by Lazarus and Folkman (1984), and the Post Traumatic Growth theory by Tedeschi and Calhoun (1996) provide a solid framework for understanding the experiences of vicenarians following the breakup of a romantic relationship.

Kübler-Ross's Stages of Grief Model describes a five-stage grieving process:

denial, anger, bargaining, depression, and acceptance. This model, which was initially developed to comprehend the emotional journey of terminally ill patients, has since been widely applied to a variety of loss experiences, including the end of romantic relationships. This model provides a framework for comprehending the complexities and nuances of the emotional journey that young adults experience during a breakup. It permits a systematic examination of the numerous emotions, responses, and adjustments that comprise the breakup experience for this demographic.

Lazarus and Folkman's Transaction Model of Stress is utilized to further comprehend the coping mechanisms utilized by vicenarians during breakups. Individuals respond to stressors using either problem- or emotion-focused coping strategies. Using this model, research can investigate the types of coping strategies vicenarian adults employ during the experience of a breakup, specifically whether they are more prone to problem-focused or emotion-focused coping strategies.

The final component of the theoretical triad is Tedeschi and Calhoun's (1996) Post Traumatic Growth theory. This theory posits that following psychological conflicts resulting from adversity, individuals frequently experience positive development. This growth can manifest in various ways, including a greater appreciation for life, altered priorities, improved relationships, a stronger personal fortitude, and the recognition of new opportunities or life paths. By applying this theory, research can

investigate how vicenarians perceive their personal growth and development following the end of a romantic relationship.

The three theories collectively constitute this study's theoretical foundation, each addressing a distinct aspect of the vicenarian experience following a breakup. They enable a comprehensive examination of vicenarians' emotional journey, coping mechanisms, and subsequent personal development, providing valuable insights for professionals in mental health, education, and social policy.

LITERATURE REVIEW

This research conceptualizes coping as a proactive strategy in managing breakup-induced grief, with an emphasis on the physiological reactions that mitigate the negative impact. In the immediate aftermath of a breakup, cognitive processing becomes integral in recognizing and pursuing avenues for growth. Field et al. (2021) found that coping is a dynamic process to manage the emotional and psychological distress stemming from romantic breakups. Although breakups can trigger grief and negative emotions, they can also stimulate cognitive processing and personal growth (Crowder et al., 2022).

The Transactional Model of Stress (Lazarus & Folkman, 1984) highlights the significance of problem-focused and emotion-focused coping strategies in navigating the aftermath. For problem-focused coping, cognitive-level methods are underpinned, such as problem-solving abilities, goal setting, and analysis of

interpersonal disagreements, as well as behavioral-level actions such as participating in smoking cessation programs, consenting to prescribed medical treatments, or dedicating time to certain activities. On the other hand, emotion-focused coping involves cognitive-level methods that aim to reduce stressful thoughts and increase positivity, along with behavioral-level actions such as seeking social support, exercising, relaxing, meditating, and joining support groups (Algorani & Gupta, 2024).

Emerging adults who effectively navigate breakups may experience post-traumatic growth (PTG; Tedeschi & Calhoun, 2004). This positive change encompasses a renewed appreciation for life and reevaluation of priorities, deeper connections with others, increased self-efficacy and resilience, exploration of existential questions and spirituality, and pursuit of new interests and life paths, fostering a renewed sense of purpose (Crowder et al., 2022; Kansky & Allen, 2018; Tiron & Ursu, 2023). According to Ramos and Leal (2013), first, the appreciation of life and altered sense of priorities stem from a newfound acceptance of uncontrollable and unpredictable life events. Second, the trauma's impact often leads to recognizing the need for support systems and fostering closer relationships with friends or family. Third, an increased awareness of personal strength is seen as an affirmation of one's capability to endure future challenges and distress. Fourth, the development of spirituality comes to the fore through religious questioning or leaning

toward spiritual growth. Fifth, emerging new possibilities prompt exploring novel opportunities across various life domains. However, PTG is not universal, and some individuals may experience prolonged distress (Field et al., 2021). Overcoming adversity, such as breakups, can foster resilience and personal strength. This study aims to explore these coping mechanisms and PTG trajectories in emerging adults. By understanding how individuals navigate and grow from breakups, we can develop more effective interventions and support systems.

METHODS

Research Design

This study utilized a qualitative-based research design, employing a phenomenological method to collect participant data. Qualitative is an overarching term encompassing various interpretive techniques to describe, decipher, or elucidate meanings of specific social phenomena (Rahman, 2016). The research method used in this study was Interpretative Phenomenological Analysis (IPA), a systematic approach examining lived experiences and social worlds (Noon, 2018). Ethical considerations should cover the whole research process, starting from choosing the research topic and continuing to publish the results. The present study followed the basic principles of research ethics throughout the research process. Permission to conduct this study was obtained from the International University of Malaya-Wales. Participants received written and oral information about the

study and the principles of voluntary participation. They could contact the researcher if they had further questions and abstain from participating without a reason. All participants signed consent forms, and they were able to withdraw from the study at any stage. The data was treated and reported confidentially. In addition, the results were reported openly and honestly.

Sample

Seven participants were chosen from Peninsular Malaysia using the purposive and snowball sampling techniques. The purposive sampling technique was used to choose participants with a background of romantic relationship breakup within the past two years. Thus, it was uncommon. This study employed the snowball method, requesting the initial participant to refer to others who match the sampling criteria, which eventually expanded the sample size of the research. The data was collected between March and April 2022 via the interview method. The summary of the participants’ background is presented in Table 1.

Instrument

This study employed a semi-structured interview approach, which facilitated open-ended questioning. Using open-ended questions eliminates the notion that every question has a right or wrong answer. This approach allowed participants to freely express their thoughts and ideas, leading to more accurate and insightful responses (Perdana et al., 2019). When participants

experienced difficulty answering or provided brief responses, the interviewer utilized cues or prompts to encourage deeper reflection (Mathers et al., 2002). The current study developed 15 semi-structured questions divided into three sets of questions. The sample interview questions are as follows:

“What was your emotional expression or thoughts towards the breakup incident? Describe more...”

“What was your perception about yourself during the breakdown?”

“How do you manage your emotions during breakdowns?”

“If you could build a relationship in future, what are the things you would like to change from your previous relationship? Explain more.”

“How do you feel about yourself after managing your emotions during a breakup?”

Table 1
Demographic background of participants

Variable	Total (N)	Percentage (%)
Gender		
Male	1	14.29
Female	6	85.71
Age		
20–25	4	57.14
26–30	2	42.86
Current relationship status		
Single	6	85.71
In relationship	0	0.00
Complicated	1	14.29
Romantic relationship breakup background		
1 relationship within 1 year	1	14.29
1 relationship within 2 years	3	42.85
2 relationships within 2 years	3	42.85

Source: Author’s work

“What is the difference between yourself when you were in the relationship and now after the breakup recovery? Explain more...”
 “How do you live or appreciate your life now?”

Data Analysis

Thematic analysis was employed as the method for data analysis in this study. Following the guidelines proposed by Braun and Clarke (2012), the analysis involved a detailed examination and description of the various themes and ideas that emerged from the data. The analysis process consisted of six steps: familiarization with the data, coding, generating themes, reviewing themes, defining and naming themes, and writing up the findings. The codes created in this study were confirmed and validated by experts in the field. This approach was used to understand the participants’ conceptualizations of their romantic

relationship and breakup experiences, identify the coping methods to navigate breakup grief and explore their perceptions of growth following the breakup.

RESULTS AND DISCUSSION

The data analysis employed thematic analysis, identifying four main themes: romantic relationships, breakups, coping mechanisms, and self-growth, accompanied by sixteen subthemes. The verbatim interview responses were categorized under each subtheme, as presented in Table 2, aligning with the research questions.

The Experience of Romantic Relationships and Breakup Among Vicenarians Adult Romantic Relationship

This theme centers around romantic relationships and participants’ experiences in love, which bring about feelings of sheer happiness, excitement, life satisfaction, and ecstasy (Pal, 2020). Most participants

Table 2
Thematic analysis of the experience of romantic relationships and breakup among vicenarian adults

Section	Themes	Subthemes
The experience of romantic relationships and breakup among vicenarians adult.	i. Romantic relationship	a) Understanding of love b) Utmost happiness in love c) Need in love
	ii. Breakup	a) Decision making b) Emotional impact c) Self-blame
The types of coping methods that vicenarians employed during the experience of break up.	iii. Coping method	a) Emotional management b) Acceptance state c) Duration taken to overcome
The vicenarians’ adult perception of self-growth after romantic relationship breakup experience.	iv. Self-growth	a) Personal strength b) Close relationship c) New possibilities d) Spiritual development e) Greater appreciation of life

Source: Author’s work

regarded love as an essential need in their lives, coupled with a desire for understanding. The subthemes, namely, understanding of love, utmost happiness in love, and need in love, will be further elaborated to provide a deeper understanding of these experiences.

Understanding of Love

Based on the responses, most participants viewed love as a motivating and driving force. They believed that being in love encouraged them and served as a catalyst for achieving their goals. For example, participants shared descriptions of love as a form of encouragement that propelled them forward:

“The name love, but it’s a kind of support a partner gives you to lead a life you wish. It’s kind of like a form of motivation.”—P3

The researchers believe the perspective on love as a driving force for personal growth implies a profound link between romantic partnerships and individual aspirations during this formative stage of life. As mentioned in Montgomery (2005), the findings suggest that romantic relationships help develop a person’s sense of self and enable emerging adulthood to explore their goals and values.

Utmost Happiness in Love

It was observed that most participants placed a high priority on meeting their partner’s needs. It was driven by their desire for profound happiness and fulfillment within

the relationship. For example, participants shared instances where they expressed a willingness to sacrifice anything for the sake of their partner’s love:

“Oh, I prioritized my partner all the time... I just like to let him decide whatever he wants to lead to the relationship... doing things for him makes me happy during that time.”—P2

However, researchers highlight that while prioritizing a partner’s needs can be a strong aspect of a healthy relationship, excessive self-sacrifice can lead to imbalance and resentment. While this Ruppel and Curran (2012) study emphasizes the dual nature of self-sacrifice, where it is beneficial in certain instances, excessive sacrifice can harm a person’s well-being and relationship satisfaction.

Need in Love

In general, participants expressed that their partners’ efforts were indicative of the strength of the relationship. They believed that having the right mindset and making efforts for their loved ones were essential to maintaining a healthy relationship. For example, participants highlighted the value they placed on the time and effort demonstrated by their partners:

“The most loved moment during my relationship... the time and the effort that the man-made for me... his care through his actions... makes me feel that I’m the one of

the most um luckiest girls... melt away the way he shows love.”—P4

Researchers underscore the importance of active engagement and commitment in nurturing a strong and satisfying partnership, which aligns with research that underscores the impact of responsive actions and dedication to relationship contentment. Similarly, the Investment Model concept states that commitment is influenced by satisfaction and the quality of the relationship’s alternatives (Rusbult et al., 1998). Therefore, the more committed a partner is, the more likely they are to actively participate in improving their relationship.

Breakup

This theme provides a clear understanding of the profound grief symptoms experienced because of a breakup. Disrupted attachment can lead to deficit-driven reactions, as highlighted by McKiernan et al. (2018). Participants shared that the breakup elicited a range of emotions, including guilt, anxiety, and anger. The subthemes, namely, decision-making, emotional impact, and self-blame, will be further discussed to explore these experiences.

Decision Making

Based on the responses, it was observed that most participants decided to initiate the breakup. They expressed that their interests, values, and feelings were not as strong as initially believed. Factors such as incompatibility and communication skills

played a role in their decision-making process. For example, participants shared instances where they decided to end the relationship:

“... break from this relationship because I realized that being here holding on to something that will not happen in the future... I decided where I shouldn’t suffer anymore... it was very painful, but at the end of the day, I still thought let it be pain now, not later in future...”—P1

As researchers show up, it exemplifies the challenging decision-making process when contemplating ending a relationship, where one must carefully consider the current distress against the possibility of enduring future hardship. Le et al. (2010) explored various factors that can predict the dissolution of a relationship. It found that although current dissatisfaction is a common factor that can lead to a breakup, people also consider other factors, such as the quality of their partners’ relationships and the perceived value of their partners’ alternatives. It suggests that people are more likely to consider the present pain when deciding to end a relationship rather than the future gains.

Out of the seven participants, only one experienced the unexpected abandonment of her partner due to a fatal accident. Facing such a sudden loss can be extremely disorienting and shocking, which significantly impacts her ability to cope with the situation. The participant’s experience serves as an example of the challenges

faced in handling unexpected and traumatic circumstances.

“Okay, actually, uh, my relationship doesn’t go into a breakup incident... My partner passed away, so it was an unexpected situation, and I could not bear it. That is no more with me in person... the moment... when I received a call saying... my partner had an accident, and it’s no more... everything... shattered all my memories. I feel blank. I feel I have nothing to do. I feel my hope is lost...”—P7

Researchers also emphasize individuals who encounter light on the distinct difficulties of dealing with unforeseen loss, which can be notably disorienting and burdensome, especially in the absence of anticipatory grief. Chan and Ho’s (2009) handbook covers various aspects of the bereavement process, including the difference between anticipated and unexpected losses. It highlighted that unexpected losses can be particularly challenging to deal with, as they can make it harder for people to process their feelings.

Emotional Impact

It was observed that all participants experienced the stages of grief following their breakup incidents. Many participants expressed their feelings of being overwhelmed and in pain during the initial stages of loss and sadness. For instance, one participant shared their struggle in managing their grief:

“... after my breakdown... I cried a lot. I was in a denial state that these things should not happen... a god is a bad person who took away my loved one... I started to bargain... hitting myself... I feel very missed, and it takes time for me to go into the acceptance mindset... I have to live my life...”—P6

For this part, the researcher emphasizes that grieving is a normal response to loss, varying in intensity based on individual factors and relationships. According to Bonanno’s (2004) research, grief is a complex process that various factors can trigger. He highlights the variety of responses to loss and the concept of resilience, which suggests that people can cope with their difficulties. It suggests that the duration and intensity of grief can vary depending on individuals’ coping mechanisms and resilience.

Self-blame

All participants who ended a relationship tend to blame themselves, even when it is not their fault. They believe that their insecurities were the cause of the breakup. For example, participants expressed the belief that their shortcomings and negative behaviors drove them away from their partners:

“Negative thoughts... Am I not eligible enough? I always compare myself with others... what’s the thing that makes her better than me... I doubt myself... my ability... my appearance and others.”—P2

As explained in the literature review, the coping strength is an inclination to self-blame in vicenarians post-breakup, which underscores their vulnerability to self-criticism and negative self-perception. According to Tashiro and Frazier's (2003) study, young adults tend to blame themselves after a breakup, which can prevent them from moving on with their lives; where studies believe this behavior is triggered by their growing up phase, during which time they are still developing their identities.

The Types of Coping Methods that Vicenarians Adults Employed During the Experience of Break-up

Coping Mechanism

This theme highlights how participants manage the process of going through a breakup. It is evident that many of them experience symptoms related to post-traumatic stress disorder (PTSD) and undergo changes in their physical and emotional well-being, including engaging in self-destructive behaviors (Mann et al., 2024). The subthemes, emotional management, acceptance state, and duration taken to overcome, will be further explored to provide a deeper understanding of these aspects of coping with the breakup.

Emotional Management

Based on the responses, it is evident that the process is challenging for all participants regardless of who initiated the breakup. They go through both short-term and long-term steps to overcome the breakup, with the ultimate goal of establishing a healthier

relationship with themselves. For example, participants shared insights into the effects of the dissolution process on their overall well-being and emphasized the importance of navigating through it to move forward:

"... I was in pain, and I diverted myself. First, I tried to suppress my emotions by consuming alcohol for three months to help me sleep and feel better about everything. The second level of suppression came when I found another guy. I started to channel my pain into him. When I reached the acceptance stage, I began to believe that whatever I'm going through now will eventually bring blessings into my life and help me live a better life in the future."—P4

"In the first few months, I started drinking almost every week. I went out with my friends and tried to forget her. I even tried meeting and sleeping with other women. Eventually, I stopped all of that and turned to religion. For the first few months, it did help, but then all the memories came back. I started watching stand-up comedy on YouTube, going to the gym, and trying to improve my physical appearance for myself."—P6

Based on the coping technique mentioned, the researcher has indicated that challenges can lead to positive transformations. As stated in Masten (2001), overcoming obstacles and thriving in the

face of adversity is referred to as resilience, where this skill can be developed and improved through challenging experiences, such as breakups. It can also boost one's self-efficacy and emotional regulation and improve one's outlook on life.

Acceptance State

The findings of this study indicate that participants have reported experiencing a sense of comfort and positive energy when they accept the breakup. They feel better about themselves when they let go of their former partner. For example, participants shared instances where they described a sense of disengagement from their past relationship, highlighting the positive impact it had on their overall well-being:

“I just couldn't accept the fact that we broke up because there were so many promises we didn't get to fulfill. It was painful for me to face reality. I started to get mad at him for causing me so much pain and heartbreak. I redirected my anger into exercising and kickboxing. Eventually, I began to accept the breakup and realized that our relationship wouldn't happen again. I saw this as an opportunity to learn from my past mistakes and carry those lessons into the future, knowing that time will heal these wounds.”—P4

As this dwells on grief stages, the researcher highlighted that moving from anger and denial to acceptance seems vital in healing emotional wounds post-breakup.

Sbarra and Emery's (2005) study was to analyze the impact of a breakup on an individual's emotional trajectory. It revealed that negative emotions, such as anger and sadness, peak immediately following a breakup and gradually decrease throughout the following months. It suggests that undergoing the initial stages of emotional recovery is necessary for people to get back on track.

Duration Taken to Overcome

Based on the responses, the time needed for recovery following a breakup appears to be influenced by the level of emotional investment in the relationship. This pattern was evident among most participants, who took at least a year to move on. For example, participants expressed their difficulties in finding stability, even after several years had passed. However, they acknowledged their growing ability to regain footing and move forward.

“Okay, it took me two years... After my breakup, whenever I saw any other guys, I still felt like I couldn't move on, like ‘Oh, everything is gone, my whole world is dark.’ Even when my friends had small gatherings, they thought it would remind me of him. I felt like I had nothing at that particular moment. I knew I had to change my mindset and transform myself into something different.”—P3

Based on the respondents, the researcher indicates that factors like relationship length, attachment style, and coping resources

influence post-breakup recovery duration. Sbarra and Emery (2005) have shown that prolonged relationships can take longer to recover due to the increased emotional investment and the complexity of the separation process.

The Vicenarians' Adult Perception of Self-growth After Romantic Relationship Breakup Experience

This discussion provides insights into the main theme of self-growth among participants who have successfully coped with a romantic relationship breakup. It encompasses the subthemes derived from the five domains of Post-Traumatic Growth (PTG).

Self-Growth

This theme delves into the perception of growth among adults following a breakup. personal development is multifaceted, encompassing cognitive, social, and emotional aspects that shape understanding of the world (Ramos & Leal, 2013). The subthemes, namely, personal strength, close relationships, new possibilities, spiritual development, and greater appreciation of life, will be further elucidated to provide a comprehensive understanding of the growth process experienced by individuals after a breakup.

Personal Strength

Based on the responses, it is evident that most participants reported experiencing increased personal strength, which aided them in facing future challenges. For

example, participants shared instances where they expressed feelings of self-pride and acknowledged their ability to confront and overcome distressing situations:

“I feel very proud because I previously had very low self-esteem and felt like I couldn't handle anything on my own. But now, I feel very confident that I can go through this on my own without anybody's help. I really admire myself, and I'm genuinely proud. I love telling myself, ‘You did it, you really did it.’”—P1

The researcher captures the empowerment and self-discovery that arose from the challenges of a breakup, acting as a catalyst for personal growth and deeper self-awareness. The Lewandowski and Bizzoco (2007) study analyzed the effects of a break-up on individuals in low-quality relationships and their personal growth. Even though they were going through a difficult time, they could still improve their self-esteem and cope with their feelings. It suggests that difficult situations can be beneficial for people.

Close Relationship

In general, participants expressed a need for support from friends or family to help them cope with anxiety and depression following a breakup. They acknowledged the importance of having a support system to understand the situation's impact on their lives. For example, participants shared instances where they developed a stronger

sense of compassion through the support received from loved ones.

“I have two types of friends: the ones who support whatever I do, and the ones who love me and tell me the truth. During my breakdown, it was this second type of friend who really helped me. Since they care for me a lot, they told me the truth to my face. When I’m in a breakdown zone, I need someone who will be honest with me, even if it’s hard to hear.”—P5

Researchers emphasize the significance of authenticity and sincere support in nurturing relationships, indicating that facing challenges with loved ones can encourage personal growth and recovery. Gable et al.’s (2004) study emphasizes the significance of capitalization, which involves sharing positive experiences with one’s partner (ex., friends or family) and getting enthusiastic reactions. Being authentic about sharing joy and genuine support can enhance a relationship’s satisfaction and promote individual well-being.

New Possibilities

It has been observed that most participants have developed new interests or a willingness to make changes in areas that are currently hindering their progress. They wanted to explore new opportunities in various aspects of their lives. For example, participants shared instances where they actively sought out new possibilities and avenues for personal growth in different areas:

“Firstly, I need to prioritize myself, no matter how much love I have for my partner. Secondly, I should not bottle up even the smallest things. Thirdly, I won’t give too many chances over the same issues because, in the end, he will take those chances for granted. My happiness cannot depend on my partner; in order for a relationship to be successful, both individuals must be happy on their own.”—P7

It strengthened the researcher’s objective, as participants’ shift led to prioritizing self-care, open communication, and setting boundaries. Neff (2003) has shown that prioritizing self-care is vital for maintaining a healthy relationship and overall well-being. Those who neglect their needs may experience resentment, dissatisfaction, and burnout.

Spiritual Development

According to the responses, it is evident that spirituality has played a significant role in assisting most participants during their coping process, serving as a source of hope and support. Developing spirituality has allowed them to open themselves up to exploring various spiritual or religious elements. For example, participants shared instances where they considered religion or spirituality as a belief system that guided a better future life:

“Spirituality is the best way for me personally to come out from... we can sense... a high level of intuition

where we can do things around us with the power of unconditional love... by meditating by looking into understanding myself.”—P2

The researchers support that spirituality protects against psychological distress and enhances resilience during challenging times. The Koenig (2012) findings of the review suggest that religious involvement is associated with better mental health and lower rates of anxiety, depression, and substance abuse. Spirituality can also help individuals cope with their stress levels and improve their resilience when faced with adversity.

Greater Appreciation of Life

Based on the responses, most participants have experienced an enhanced appreciation of life and a shifted perception of importance. They expressed that this transformation stemmed from coming to terms with the traumas they experienced. For example, participants shared instances where they expressed gratitude for the small things that brought them the most pleasure, highlighting their newfound appreciation and perspective.

“I appreciate life so much more now compared to before. Previously, I thought my world was just a small space—myself, my room, and the people around me. But now, I feel like there are so many things around me: the beauty of nature, the love of animals, the sound of the waves, and the love we receive

from our mothers and the care from friends. All these forms of love make me want to live more fully in this world. I’m really grateful for my experiences, as they’ve made me feel this way and want to explore more of what life has to offer.”—P1

Through these results, the researcher indicated that individuals can develop deeper gratitude and enhanced meaning-making abilities following tough experiences. According to studies by Wood et al. (2008), gratitude can help individuals feel more social support, lower their stress levels, and decrease their depressive symptoms. It can also help them cope with challenging experiences.

CONCLUSION

This research has provided valuable insights into the experience of romantic relationships and breakups among vicenarian adults. The study explored not only the experience of these adults during romantic relationships and breakups but also the coping methods they employed during the breakup process. Furthermore, it investigated how vicenarians perceive their self-growth after experiencing a romantic relationship breakup. These findings enriched the understanding of the Stages of Grief Model, revealing potential variations or additional stages in the grief process in the context of romantic breakups. The study also explored coping methods employed by vicenarian adults during breakups, which included emotional management, the state

of acceptance, and the duration taken to overcome the breakup. This examination of coping mechanisms provided a more nuanced perspective on the Transaction Model of Stress, showing how specific stress responses operate in the context of romantic breakups. Finally, the research explored vicenarian adults' perception of self-growth following a romantic breakup. Themes such as personal strength, closer relationships, new possibilities, spiritual development, and greater appreciation of life emerged, shedding light on the Post Traumatic Growth theory.

Overall, this research has not only provided a deeper understanding of vicenarian adults' experiences with romantic relationships and breakups but also contributed to the theoretical understanding of grief, stress, and post-traumatic growth. The insights gleaned from this study hold significant implications for mental health professionals, educators, and policymakers in providing support and designing interventions targeted toward this demographic. Hopefully, these findings will foster healthier coping strategies and narratives surrounding breakups, emphasizing them as potential opportunities for personal growth.

Research Implications

This research contributed to understanding how vicenarian adults handled romantic relationships and breakups. It emphasized their understanding of love, their perception of happiness within relationships, and their unique relationship needs. The

complexities involved in decision-making during breakups, the subsequent emotional impact, and the tendency towards self-blame were investigated in greater depth, providing mental health professionals with vital insights. These insights would allow them to develop effective counseling strategies based on this demographic's identified themes and subthemes.

Understanding vicenarians' coping strategies during breakups could significantly contribute to developing interventions and support programs. By examining how this population manages emotions, achieves acceptance, and recovers from the emotional upheaval of a breakup, interventions could be developed based on empirical evidence that promotes healthier coping mechanisms. These findings also had implications for policymakers and educators, suggesting incorporating emotional management and acceptance techniques into educational curricula to better prepare future generations for relationship challenges.

Additionally, this study shed light on the positive aspects of breakups, such as personal strength, the development of closer relationships, the discovery of new possibilities, growth in spirituality, and an increased appreciation for life. Understanding this post-breakup growth was essential for developing resilience- and positive psychology-focused therapeutic approaches. Recognizing self-development also promoted a healthier perspective on breakups, viewed as opportunities for personal development rather than merely negative experiences.

Media influence, particularly new media technologies such as blogs, podcasts, emails, video games, and interactive televisions (Nicoleta, 2008), was significant among vicenarians (Rogalla, 2020). These platforms could be utilized to increase awareness of post-traumatic development. Individuals recovering from a breakup could be better supported if they had access to information about effective coping mechanisms that fostered long-term positive outcomes. It could help vicenarians understand that effective emotion management could lead to self-development, thereby discouraging destructive behaviors such as suicidal ideation, self-harm, substance abuse, and seeking vengeance against their ex-partner.

Research Limitations

There are a few limitations and setbacks that can be improved to provide more enriched data and information about this research. This study consists of most female participants compared to male participants because men should not be limited by the restrictions of masculinity (Shimek & Bello, 2014). Hence, finding male participants under these categories was challenging because most did not want to recall their memories. Otherwise, the participants' willingness to talk about their identity shows that they have no problem doing so, but the researcher could not justify the data due to the gender difference. Secondly, since the time-consuming nature of the study prevented it from being disseminated to the public, the researcher

selected the participants by snowballing sampling. It might seem incomprehensible to the data collector, but it is also part of the qualitative research process. Thirdly, the online interview method was a drop back compared to face-to-face interviews. This issue prevented the researcher from getting real participant feedback (Mukhtar et al., 2020).

ACKNOWLEDGEMENTS

The authors would like to thank the individuals who provided valuable information for the study. This research did not receive any specific grant from funding agencies in the public, commercial, or non-profit sectors. It was entirely self-funded.

REFERENCES

- Algorani, E. B., & Gupta, V. (2024). *Coping mechanisms*. StatPearls Publishing LLC.
- Bonanno, G. A. (2004). Loss, trauma, and human resilience: Have we underestimated the human capacity to thrive after extremely aversive events? *The American Psychologist*, 59(1), 20-28. <https://doi.org/10.1037/0003-066X.59.1.20>
- Braun, V., & Clarke, V. (2012) Thematic analysis. In H. Cooper, P. M. Camic, D. L. Long, A. T. Panter, D. Rindskopf, & K. J. Sher (Eds.), *APA handbook of research methods in psychology* (Vol. 2: Research designs: Quantitative, qualitative, neuropsychological, and biological; pp. 57-71). American Psychological Association. <https://doi.org/10.1037/13620-004>
- Chan, C. L. W., & Ho, A. H. Y. (2009). Handbook of bereavement research and practice: Advances in theory and intervention edited by Margaret S. Stroebe, Robert O. Hansson, and Wolfgang Stroebe: (2008). Washington, DC: American

- Psychological Association, 658 pages. *Journal of Women & Aging*, 21(4), 317-319. <https://doi.org/10.1080/08952840903044642>
- Chua, S. N., & Rao, M. V. (2021). *Youth suicide in Malaysia*. Relate Mental Health Malaysia. <https://relate.com.my/wp-content/uploads/2021/02/Youth-suicide-in-Malaysia-2021-to-upload.pdf>
- Crowder, R. J., Acquaye, H. E., Boanca, G., & Thiesen, N. L. (2022). A journey through romantic heartbreak and psychological growth: An exploratory phenomenological study of adult females. *Journal of Psychology and Theology*, 50(4), 455-472. <https://doi.org/10.1177/00916471211032297>
- Field, T. (2017). Romantic breakup distress, betrayal and heartbreak: A review. *International Journal of Behavioral Research & Psychology*, 5(2), 217-225. <https://doi.org/10.19070/2332-3000-1700038>
- Field, T., Poling, S., Mines, S., Diego, M., Bendell, D., & Pelaez, M. (2021). Trauma symptoms following romantic breakups. *Journal of Psychology & Clinical Psychiatry*, 2(2), 37-42.
- Franklin, A. (2015). *The role of positive psychological factors and coping strategies following a non-marital relationship breakup* [Doctoral thesis, The Australian National University]. <https://doi.org/10.25911/5D778ADE8BB2B>
- Gable, S. L., Reis, H. T., Impett, E. A., & Asher, E. R. (2004). What do you do when things go right? The intrapersonal and interpersonal benefits of sharing positive events. *Journal of Personality and Social Psychology*, 87(2), 228-245. <https://doi.org/10.1037/0022-3514.87.2.228>
- Gongora, E. A., & Vásquez-Velázquez, I. I. (2018). From coping with stress to positive coping with life: Theoretical review and application. *Psychology*, 9(15), 2909-2932. <https://doi.org/10.4236/psych.2018.915169>
- Kansky, J., & Allen, J. P. (2018). Making sense and moving on: The potential for individual and interpersonal growth following emerging adult breakups. *Emerging Adulthood*, 6(3), 172-190. <https://doi.org/10.1177/2167696817711766>
- Koenig, H. G. (2012). Religion, spirituality, and health: the research and clinical implications. *International Scholarly Research Notices*, 2012, Article 278730. <https://doi.org/10.5402/2012/278730>
- Kübler-Ross, E. (1970). *On death and dying*. Collier Books/Macmillan Publishing Co.
- Lazarus, R. S., & Folkman, S. (1984). *Stress, appraisal, and coping*. Springer.
- Le, B., Dove, N. L., Agnew, C. R., Korn, M. S., & Mutso, A. A. (2010). Predicting nonmarital romantic relationship dissolution: A meta-analytic synthesis. *Personal Relationships*, 17(3), 377-390. <https://doi.org/10.1111/j.1475-6811.2010.01285.x>
- Lewandowski G. W., Jr, & Bizzoco, N. M. (2007). Addition through subtraction: Growth following the dissolution of a low quality relationship. *The Journal of Positive Psychology*, 2(1), 40-54. <https://doi.org/10.1080/17439760601069234>
- Logan, A. C., Berman, S. H., Scott, R. B., Berman, B. M., & Prescott, S. L. (2021). Catalyst twenty-twenty: Post-traumatic growth at scales of person, place and planet. *Challenges*, 12(1), Article 9. <https://doi.org/10.3390/challe12010009>
- Mann, S. K., Marwaha, R., & Torrico, T. J. (2024). Posttraumatic stress disorder. In *StatPearls [Internet]*. StatPearls Publishing. <https://www.ncbi.nlm.nih.gov/books/NBK559129/>
- Masten, A. S. (2001). Ordinary magic. Resilience processes in development. *American Psychologist*, 56(3), 227-238. <https://doi.org/10.1037//0003-066x.56.3.227>
- Mathers, N., Fox, N., & Hunn, A. (2002). *Using interviews in a research project*. Trent Focus

- Group. <http://web.simmons.edu/~tang2/courses/CUAcourses/lsc745/sp06/Interviews.pdf>
- McKiernan, A., Ryan, P., McMahon, E., Bradley, S., & Butler, E. (2018). Understanding young people's relationship breakups using the dual processing model of coping and bereavement. *Journal of Loss and Trauma, 23*(3), 192-210. <https://doi.org/10.1080/15325024.2018.1426979>
- Mofatteh, M. (2020). Risk factors associated with stress, anxiety, and depression among university undergraduate students. *AIMS Public Health, 8*(1), 36-65. <https://doi.org/10.3934/publichealth.2021004>
- Montgomery, M. (2005). Psychosocial intimacy and identity from early adolescence to emerging adulthood. *Journal of Adolescent Research, 20*(3), 346-374. <https://doi.org/10.1177/0743558404273118>
- Mukhtar, K., Javed, K., Arooj, M., & Sethi, A. (2020). Advantages, limitations and recommendations for online learning during COVID-19 pandemic era. *Pakistan Journal of Medical Sciences, 36*(COVID19-S4), S27-S31. <https://doi.org/10.12669/pjms.36.COVID19-S4.2785>
- Neff, K. D. (2003). Self-compassion: An alternative conceptualization of a healthy attitude toward oneself. *Self and Identity, 2*(2), 85-101. <https://doi.org/10.1080/15298860309032>
- Nicoleta, C. (2008). The impact of new media on society. *Behavioral and Social Sciences. Conference proceeding 4* (pp. 121-130). CNCSIS listening B+. https://www.researchgate.net/publication/215489586_The_impact_of_new_media_on_society
- Noon, E. J. (2018). Interpretive phenomenological analysis: An appropriate methodology for educational research? *Journal of Perspectives in Applied Academic Practice, 6*(1), 75-83. <https://doi.org/10.14297/jpaap.v6i1.304>
- Norona, J. C., Roberson, P. N. E., & Welsh, D. P. (2017). "I learned things that make me happy, things that bring me down": Lessons from romantic relationships in adolescence and emerging adulthood. *Journal of Adolescent Research, 32*(2), 155-182. <https://doi.org/10.1177/0743558415605166>
- Pal, K. (2020). *Psychological Understanding Among Love And Relationships Kanchan Pal* (P.G Scholar)*. ResearchGate. https://www.researchgate.net/publication/344682596_PSYCHOLOGICAL_UNDERSTANDING_AMONG_LOVE_AND_RELATIONSHIPS_KANCHAN_PAL_PG_SCHOLAR
- Perdana, R., Riwayani, R., Jumadi, J., & Rosana, D. (2019). Development, reliability, and validity of open-ended test to measure student's digital literacy skill. *International Journal of Educational Research Review, 4*(4), 504-516. <https://doi.org/10.24331/ijere.628309>
- Rahman, M. S. (2016). The advantages and disadvantages of using qualitative and quantitative approaches and methods in language "testing and assessment" research: A literature review. *Journal of Education and Learning, 6*(1), 102-112. <https://doi.org/10.5539/jel.v6n1p102>
- Ramos, C., & Leal, I. (2013). Posttraumatic growth in the aftermath of trauma: A literature review about related factors and application contexts. *Psychology, Community & Health, 2*(1), 43-54. <https://doi.org/10.5964/pch.v2i1.39>
- Rogalla, K. B. (2020). Anticipatory grief, proactive coping, social support, and growth: Exploring positive experiences of preparing for loss. *OMEGA - Journal of Death and Dying, 81*(1), 107-129. <https://doi.org/10.1177/0030222818761461>
- Ruppel, E. K., & Curran, M. A. (2012). Relational sacrifices in romantic relationships. *Journal of Social and Personal Relationships, 29*(4), 508-529. <https://doi.org/10.1177/0265407511431190>

- Rusbult, C. E., Martz, J. M., & Agnew, C. R. (1998). The investment model scale: Measuring commitment level, satisfaction level, quality of alternatives, and investment size. *Personal Relationships*, 5(4), 357-387. <https://doi.org/10.1111/j.1475-6811.1998.tb00177.x>
- Sbarra, D. A., & Emery, R. E. (2005). The emotional sequelae of nonmarital relationship dissolution: Analysis of change and intraindividual variability over time. *Personal Relationships*, 12(2), 213-232. <https://doi.org/10.1111/j.1350-4126.2005.00112.x>
- Shimek, C., & Bello, R. (2014). Coping with break-ups: Rebound relationships and gender socialization. *Social Sciences*, 2014, 24-43. <https://doi.org/10.3390/socsci3010024>
- Tashiro, T., & Frazier, P. (2003). "I'll never be in a relationship like that again": Personal growth following romantic relationship breakups. *Personal Relationships*, 10(1), 113-128. <https://doi.org/10.1111/1475-6811.00039>
- Tedeschi, R. G., & Calhoun, L. G. (1996). The posttraumatic growth inventory: Measuring the positive legacy of trauma. *Journal of Traumatic Stress*, 9(3), 455-471. <https://doi.org/10.1007/BF02103658>
- Tedeschi, R. G., & Calhoun, L. G. (2004). TARGET ARTICLE: "Posttraumatic growth: Conceptual foundations and empirical evidence." *Psychological Inquiry*, 15(1), 1-18. https://doi.org/10.1207/s15327965pli1501_01
- Tiron, M.-L., & Ursu, A. (2023). Personal growth and psychological well-being after a romantic break. *Psychreg Journal of Psychology*, 7(2), 54-64. <https://doi.org/k7v2>
- Wood, A. M., Maltby, J., Gillett, R., Linley, P. A., & Joseph, S. (2008). The role of gratitude in the development of social support, stress, and depression: Two longitudinal studies. *Journal of Research in Personality*, 42(4), 854-871. <https://doi.org/10.1016/j.jrp.2007.11.003>

Psychosocial Experience of Patients with Diabetes Mellitus: An Interpretative Phenomenological Analysis

Zaqqi Ubaidillah^{1*}, Ratna Wulandari² and Faqih Ruhyanudin¹

¹*Medical Surgical Nursing Department, Faculty of Health Sciences, Universitas Muhammadiyah Malang, Malang 65145, East Java, Indonesia*

²*Mental Health Department, STIKes Maharani Malang, Malang 65143, East Java, Indonesia*

ABSTRACT

Psychological problems experienced by diabetic patients need to be known and handled properly by health workers because distress will have a negative impact on the patient's diabetes management behavior. This study aims to capture and describe in detail the psychosocial experience of diabetes patients. This research is qualitative research with a phenomenological approach. Purposive sampling was used to select participants who had an experience following the phenomenon and research objectives. The number of participants in this study was 10 participants. This research was conducted in the Malang City Ciptomulyo Health Center area from March to May 2021. The analysis of this research was interpretative psychological analysis (IPA). The four themes of the psychosocial experience found in people with diabetes mellitus are fear and worry when diagnosed with diabetes, sad and disturbed by changes in body appearance and function, social support providing appeasement and self-awareness and support of others for diabetes management. Living with diabetes can be a difficult and overwhelming experience that often leads to fear and anxiety. Furthermore, the physical changes caused by diabetes can disrupt daily routines and affect mental health. Health workers should address both the physical and psychological effects of diabetes and encourage patients to take responsibility for their treatment to improve overall health.

Keywords: Diabetes, fear, psychosocial, self-awareness, social support, stress

ARTICLE INFO

Article history:

Received: 20 October 2023

Accepted: 16 August 2024

Published: 16 December 2024

DOI: <https://doi.org/10.47836/pjssh.32.4.02>

E-mail addresses:

zaqqi@umm.ac.id (Zaqqi Ubaidillah)

ratna.wulandari1204@gmail.com (Ratna Wulandari)

faqih@umm.ac.id (Faqih Ruhyanudin)

* Corresponding author

INTRODUCTION

Diabetes mellitus is a metabolic disorder in which the body lacks insulin or experiences resistance to insulin so that the body's ability to utilize glucose, fat, and protein

is disrupted (Dunning, 2013). Currently, diabetes affects many people worldwide as a chronic disease. The International Diabetes Federation (2019) states that the number of diabetics worldwide currently reaches 463 million people. In Indonesia, there is 1 in 16 people aged 20 to 79 years suffer from diabetes. The high prevalence of diabetes has made the Indonesian government stipulate that diabetes is one of the four priority non-communicable diseases in Indonesia (Ministry of Health Republic Indonesia, 2019)

Diabetics are not only at risk of experiencing physical disorders related to diseases such as retinopathy (Mikki et al., 2017), but they are also prone to psychological disorders (Gillani et al., 2017). Several studies show that people with diabetes generally have distress related to their disease (Aljuaid et al., 2018; Bo et al., 2020; Sankar et al., 2018). In addition to experiencing distress, individuals with diabetes are also more susceptible to developing depression (Bădescu et al., 2016). In various studies, such as in the European region, a cross-sectional study conducted on 216 individuals aged 20–45 years with type 2 diabetes in Denmark stated that 24% of participants had high diabetic distress (Bo et al., 2020). Meanwhile, in Spain, out of 3,443 patients with diabetes mellitus, 592 patients (20.03%) experienced depression (Salinero-Fort et al., 2018). Apart from Europe, depression in diabetics is also commonly found in Asia. A study of 893 people in China who suffered from diabetes showed that 56.1% of them

suffered from depressive symptoms (Sun et al., 2016). Another study in South Korea showed that 28.8% of 3540 diabetics as research participants experienced depression (Park et al., 2015). These data indicate that psychological problems such as distress and depression are common in people with diabetes mellitus.

Psychological problems such as distress experienced by diabetic patients need to be known and handled properly by health workers because distress will have a negative impact on the patient's diabetes management behavior. The distress experienced by diabetic patients will reduce the low level of adherence to medication, diet control, physical activity, and overall self-management (Kumar et al., 2017; Quek et al., 2019). Changes in managing this disease will impact controlling blood sugar levels in diabetic patients (Wong et al., 2015). These various factors will then impact the patient's health-related quality of life (Jannoo et al., 2017). Therefore, the worse the emotional distress diabetic patients feel, the lower their quality of life (Gómez-Pimienta et al., 2019)

The impact of diabetes distress on patients' quality of life highlights the need for nurses, particularly psychiatric nurses, to comprehend the psychosocial challenges faced by diabetic patients. One of the responsibilities of psychiatric nurses is to address the psychosocial issues of patients with physical illnesses (Austin & Kunyk, 2019). It is commonly referred to as a liaison (Townsend & Morgan, 2018). Liaison is a psychiatric service that integrates mental

health services into general health services so patients receive holistic care from a physical and psychological perspective (Harrison, 2007). A good understanding of the psychological problems diabetics face will help health workers improve the quality of the interventions provided (Berry et al., 2015).

Existing quantitative research has provided explanations regarding several aspects related to and influencing diabetes distress, such as emotional burden, distress related to treatment regimens, distress related to complications, and distress related to the level of health facilities (Aljuaid et al., 2018; Arifin et al., 2019; Bădescu et al., 2016; Berry et al., 2015; Bo et al., 2020). Previous quantitative research only used a questionnaire to measure physical problems and diabetes-related distress. It may have overlooked the nuanced and personal emotional experiences of individuals. These studies may not fully represent the depth and complexity of these issues, particularly in how they affect patients' daily lives and emotional well-being. Furthermore, there is still a lack of qualitative studies that delve into the psychosocial dimensions of diabetes.

This study used a qualitative approach that could explore these emotional and psychosocial dimensions more deeply by capturing patients' voices and lived experiences. This approach would help to understand the personal and emotional aspects of diabetes-related distress that are not easily quantified, providing a more comprehensive understanding of the issue. By focusing on patient narratives, this

research could uncover underlying themes and patterns that have been underrepresented in previous research, thus addressing a critical gap in the literature.

METHODS

Design

This research is qualitative research with a phenomenological approach. Phenomenology is a method used to understand a phenomenon from the perspective of the participants (Maltby et al., 2010). Therefore, a phenomenological approach is used to comprehensively understand the psychosocial experience of diabetic participants.

The researcher conducted literature reviews to formulate interview questions. The interviewer guide was counter-checked with a mental health nursing expert; thus, it can be considered effective in extracting information from the respondents. In the next step, for interview skills, we studied deep interview techniques, observed interview videos, and practiced the interview skills before starting the research.

Participants and Setting

Purposive sampling selects participants with experience following the phenomenon and research objectives. The number of participants in a qualitative study is determined by data saturation (Creswell, 2012). Data reaches saturation if previous participants repeat and confirm the information, even with different wording (Speziale et al., 2011).

The number of participants in this study was 10. Information was repeated starting from the eighth participant, so the researcher added two additional participants to ensure data saturation. The researcher confirmed that data saturation was achieved with 10 participants.

The study inclusion criteria were as follows: (1) over 18 years old (2) diagnosed with type 2 diabetes mellitus (3) willing to become a participant by signing a consent letter as a participant; (4) physically and mentally healthy; (5) able to communicate well. The exclusion criterion of this study was having more than three complications of diabetes mellitus. This research was conducted in one of the Health Centre areas of Malang City. The research was conducted from March to May of 2021.

Ethical Consideration

Researchers have obtained a permit from the ethical committee of the Faculty of Medicine, University of Brawijaya, with letter number 93/EC>KEPK-S2/03/2021.

The researcher ensures the confidentiality and security of the data by not providing the participants with their names. In addition, the researcher replaced the participant's identity with the initials P1 for participant number one, P2 for participant number two, and so on in the transcript and research report. The researcher will store data in the form of recordings, analysis results, or reports in a safe place for five years, and then the data will be destroyed by deleting each recording result. The researcher provided

a password to open each file containing participant data.

Data Collection

Researchers asked for permission from the Malang City Health Office and the Ciptomulyo Health Center to ask permission to conduct research in the health center area. After obtaining permission from the Community Health Center, the researchers identified potential participants whom Community Health Center nurses and cadres assisted. Then, the researcher determines whether the participants fit the research inclusion criteria. When potential participants meet the inclusion criteria and are willing to participate in the research process, the researcher then explains the intent and purpose of conducting the research in more detail and answers questions from potential participants about the research. After the participants agreed to participate in the study, the researchers submitted informed consent to the participants to be signed. Then, the researcher made an interview contract with the participants.

The research participants decided the time and place of the research interview. The researcher conducted interviews in a semi-structured manner by exploring the participants' psychosocial experiences in depth and recording all the client's conversations with a tape recorder. Researchers use field notes to record non-verbal expressions expressed by respondents. Interviews were conducted in person by implementing health protocols,

namely wearing masks and maintaining distance. The interview ended after the participants answered all the questions according to the interview guidelines. The researcher agreed with the participant to ask permission if the researcher had to contact the participant again by telephone or meet the participant in person if there were important data from the interview that might not be clear. Research interviews were conducted for approximately 60 minutes for each participant.

Data Analysis

The analysis used in this research is Interpretative Psychological Analysis (IPA). IPA is an analytical method to describe one's experience of a particular phenomenon (Smith et al., 2009). So, this method is used to describe the psychosocial experience of people with diabetes mellitus with in-depth interpretation.

The first step in the science analysis is for the researcher to read the research transcript repeatedly. It is done so that the researcher can understand the participant's point of view and ensure that the participant's statement becomes the focus of the analysis. The second stage is the initial recording, in which the researcher looks for the meaning in the participant's sentence. This note includes three things: The first is descriptive comments that focus on the descriptions that participants have submitted. The second is linguistic comments, namely notes on using certain words conveyed by participants. The third is a conceptual comment, an interpretive record of participant statements.

The third stage of the IPA analysis is theme development. The researcher carries out this stage by looking for the essence and important things from the participant's statements and uniting them into something meaningful. These are the themes in the research. The next step is for the researcher to move on to the transcript of the next participant and start analyzing the data as was done with the previous participant.

Trustworthiness

The validity of this research data is carried out in four ways: credibility, dependability, confirmability, and transferability. The credibility of this research was achieved by clarifying the findings of meaningful sentences from the interview results that the researcher perceived to the participants. It is to validate whether the researcher's perceptions of the interview results are based on what the participants expressed. Research dependability is to carry out structured data analysis to interpret the results of this research correctly. Confirmability of this research is achieved by auditing the research data to ensure that it has reached saturation. Transferability in this study was carried out by applying the bracketing principle; researchers set aside all personal interpretations of the phenomenon to be studied, especially when collecting and analyzing data. The researcher fully uses the participant's point of view so that the description of the phenomenon observed is purely from the participant's point of view without any intervention from the researcher.

RESULTS

The characteristics of the participants in this study included age, gender, education, and occupation. The ages of the participants in this study were 30 to 40 years (1 person), 41 to 50 years (3 people), 51 to 60 years (1 person), 61 to 70 years (3 people) and 71 to 80 years (2 people). The gender of participants in this study is two men and eight women. The education of most participants was not graduating from elementary school. Most participants did not have a job. The participant's demographic data are described in Table 1.

Findings from the study were detailed into four themes. Table 2 provides an overview of this research's main theme and sub-themes. The first theme is fear and worry when diagnosed with diabetes. The categories of this theme are fear of fatality from diabetes and fear of having to undergo an amputation due to diabetes. The second theme pertains to feeling sad and disturbed due to changes in one's body appearance and function. It consists of two sub-themes: (1) being sad and disturbed about the change in appearance and (2) being disturbed by changes in body function. The sub-theme of dissatisfaction

Table 1
Participant's demographic data

Code	Age	Gender	Education	Job
P1	65	Man	High School	Pensionary
P2	61	Woman	Undergraduate	Unemployed
P3	74	Woman	Undergraduate	Unemployed
P4	77	Woman	Undergraduate	Unemployed
P5	45	Woman	Junior high school	Unemployed
P6	52	Woman	Undergraduate	Factory workers
P7	43	Woman	Elementary School	Maid
P8	66	Woman	Undergraduate	Unemployed
P9	32	Woman	Elementary School	Unemployed
P10	46	Man	High School	Bank Employee

Source: Authors' work

Table 2
Theme's distribution

Theme	Sub-Theme
Fear and worry when diagnosed with diabetes.	-
Feeling sad and disturbed due to changes in one's body appearance and function.	Being sad and disturbed by changes in appearance
-	Being disturbed by changes in body function
Social support provides appeasement	-
Self-awareness and support of others for diabetes management	Self-awareness Social support for treatment

Source: Authors' work

with changes in appearance was related to looking older and confused about weight loss; the sub-theme disturbed by changes in body function was created under the category of “Disturbed” as it is common to feel tired and disturbed while sleeping due to frequent urination. The third theme is that social support provides appeasement. The theme falls under the category of uplifting conversations with family members, which can boost the mood of the participants and spending time with friends can distract participants from thoughts about diabetes. The fourth theme is self-awareness and support of others for diabetes management, with sub-themes of self-awareness and social support for treatment. The sub-theme category of self-awareness involves efforts to heal oneself and take responsibility for treatment. The sub-theme category of support of others for diabetes management involves the social environment, which encourages participants to seek treatment and family members who accompany them to check their blood sugar levels.

Fear and Worry when Diagnosed with Diabetes

Participants expressed feelings of fear and worry after learning that they had diabetes. Many expressed a fear of mortality, believing that those with diabetes were at a higher risk of death. Some of the other participants shared their concerns about the potential complications of diabetes. The following are participant statements:

“Yes, I’m afraid it’s prone to death. I know diabetes is prone to death....”

I still love to eat delicious food; how come I die.” (P1)

“Yes, I have a little anxiety... For example, I would be like my mother who suffers from diabetes. She can’t walk, now...” (P5)

Sad and Disturbed by Changes in Body Appearance and Function

The theme derived from the participants’ experiences of the changes they faced due to diabetes.

Being Sad and Disturb about the Change in Appearance

Participants stated that they felt sad about changing their appearance after suffering from diabetes. These changes included losing weight and aging.

“What I thought was, it’s sad that my body is small and looks old. My head is wrinkled like an old man. I became skinny. And I used to feel like I had no energy. My body looks so thin and unhealthy.” (P1)

“It turns out that I’m suddenly skinny. My weight suddenly dropped from 58 to 57 and continues to decrease by 1 kilo every month. I’m confused about why this is happening.” (P8)

Being Disturbed by Changes in Body Function

Additionally, the study revealed that participants expressed feelings of sadness and disturbance due to the physical changes

and body functions they experienced as a result of diabetes. Below are some quotes from interviews with the participants:

“If you’re a diabetic, you will get tired easily... When I get tired, I will leave all my housework. That’s how my laundry gets piled up like that. What else can I do? I can’t do it alone.” (P2)

“I keep feeling like my body is losing weight. I’m thirsty, and I keep drinking. I always eat. get hungry easily.” (P10)

“Suddenly, my head began to ache and feel heavy, causing dizziness. It was very unsettling for me.” (P3)

Social Support Provides Appeasement

Participants stated that they felt calm when they received support from their family members and friends. Some notable quotes from participants include:

“My husband was the source of my strength and calmness.... My husband said it was okay, the important thing was treatment. Insyallah, it will be okay....” (P5)

“Yes, my entertainment is when I’m at work. If you’re at the office, you can still talk to your friends, you know.” (P6)

Self-awareness and Support of Others for Diabetes Management

This theme was obtained from participants’ experiences in managing diabetes.

Self-awareness

The participants’ self-awareness is evident in their efforts to recover from diabetes. Here are interview excerpts:

“In the past, while at work, I used to drink Nutrisari with ice when I was thirsty. It used to be refreshing and delicious, but now I only drink water because I prioritize my health.” (P7)

“No, miss. I will just take my medicine myself. I don’t need any reminders. It’s my own responsibility, right?” (P9)

Social Support for Treatment

The social environment, including family and friends, supports proper diabetes management. Excerpts from participant’s interviews:

“Yes, my friend gave me a suggestion. My leader supports my treatment. My wife always reminds me to get regular medication and check-ups so we can monitor my blood sugar level.” (P1)

“Yes, my son-in-law drives me to the hospital every month for check-ups and to pick up my medicine.” (P2)

DISCUSSION

The results obtained in this study show that diabetics have feelings of fear and anxiety due to their diabetes. This feeling can arise from the belief that participants have that diabetics are vulnerable to death. Diabetics experience

emotional burdens such as feelings of anxiety and fear, especially those who do not have a family history of type 2 diabetes mellitus (Arifin et al., 2019). This feeling can arise from the negative perception of diabetics about the dangers of diabetes (Purewal & Fisher, 2018). Besides that, feelings of fear and anxiety that exist in participants can also arise due to the possibility of complications that can arise because of suffering from diabetes. It is in line with previous research that diabetic patients experience anxiety and fear associated with long-term negative consequences such as complications of diabetes and disability due to amputation (Tanenbaum et al., 2016). It shows that intervention is needed to improve coping skills and change the cognitive abilities of diabetics related to their illness. Mental health support, such as stress management skills, is needed by people with diabetes. Studies have shown that diabetes patients who undergo stress management training have lower levels of hemoglobin A1c (HbA1c; Wagner et al., 2016). The HbA1c measures the average blood sugar levels over the past two to three months (Sherwani et al., 2016). Therefore, optimal glycemic control in people with diabetes mellitus occurs when their HbA1c levels are within the normal range (Sherwani et al., 2016). It is important because optimal glycemic control can reduce the risk of microvascular complications in diabetics (Torkamani et al., 2020). Therefore, mental health interventions like this can reduce distress (Fisher et al., 2019) and improve glycemic control in diabetics (Perrin et al., 2019).

Other results of this study indicate that the participants expressed feelings of sadness and disturbance due to experiencing physical changes and body functions after suffering from diabetes. It is in line with previous research, which stated that patients with diabetes mellitus can feel physical pain, weakness, dizziness, and other physical problems due to diabetes, which can cause anxiety and fear (Tanenbaum et al., 2016). It shows that physical disorders that arise in diabetics need to get attention and treatment from health workers. Healthcare professionals should provide exercise education to diabetic patients, as research indicates it can improve their physical health (Cadore & Izquierdo, 2015).

Social support is needed for diabetics. Participants in this study stated that social support provides a feeling of calm and reduces the distress felt due to diabetes. It is consistent with research showing that adequate social support can reduce the emotional distress felt by people with diabetes (Ramkisson et al., 2017). In addition, the social support obtained from the family will provide the patient with practical assistance that can help the patient overcome the distress of living with the disease (Miller & Dimatteo, 2013). Thus, better social support is associated with better patient self-efficacy, improving medical adherence and glycemic control (Shao et al., 2017). It shows that health workers need to involve their family or those closest to the patient in the diabetes management process so that they can provide support in the treatment process.

The results of this study indicate that self-awareness in diabetics, such as their desire to recover and feelings of responsibility, triggers them to take diabetes medication regularly. Previous studies show that self-awareness like this contributes to diabetes medication adherence behavior (Ranjbaran et al., 2020). The results of this study indicate that it is important for health workers to build self-awareness in patients with diabetes mellitus to manage diabetes optimally.

Regimen-related distress is a critical area of diabetes distress that focuses on disease management in everyday life (Hessler et al., 2014). Distress related to regimen is one of the most common distresses found in patients with diabetes mellitus (da Silva et al., 2018). Regimen in diabetes is related to regular use of diabetes drugs or insulin, lifestyle changes, and dietary patterns that need to be followed to control the disease (Dunning, 2013). Therefore, social support is also needed for diabetics to manage diabetes (Dunning, 2013). Participants in this study stated

that the social environment helped them manage diabetes. The support received by participants can be in the form of emotional support, suggestions, reminders of diabetes management adherence, and involvement in the diabetes management process (Dunning, 2013). Such support leads to better diabetes self-efficacy, better medical compliance and, ultimately, better glycemic control (Shao et al., 2017).

The results of this study indicate that people with diabetes feel fear and are disturbed by physical and physiological changes caused by diabetes. Social support and self-awareness in managing diabetes can help overcome these problems. Figure 1 presents a diagram of the relationship between themes in this study.

CONCLUSION

Living with diabetes can be a challenging experience that causes fear and anxiety for many sufferers. They worry about the fatalities of diabetes and the potential complications of the disease, including paralysis and amputation. Additionally,

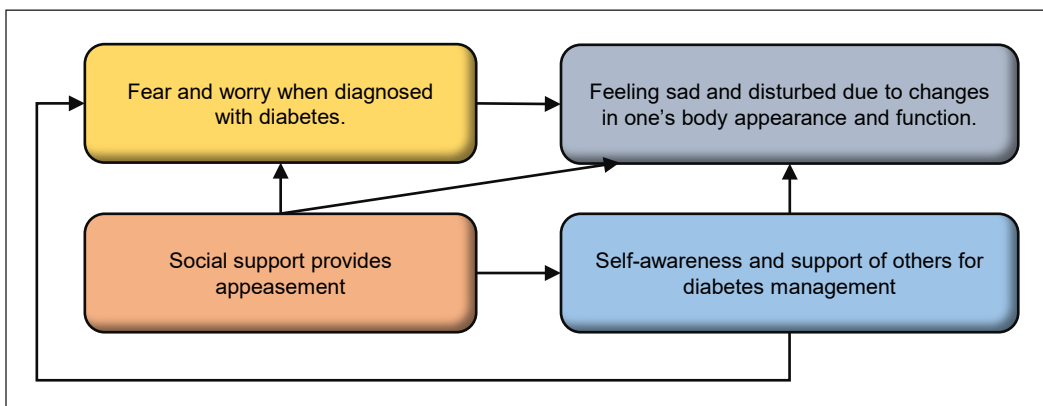


Figure 1. Diagram of the relationship between themes
Source: Authors' work

physical changes brought on by diabetes can disrupt daily activities and impact mental health.

Managing diabetes requires a complex set of behaviors that must be followed daily. However, some people feel a sense of responsibility for managing their condition and are more likely to follow recommended lifestyle changes and take medications. Health workers must provide interventions that address the physical and psychological effects of diabetes and help patients develop a sense of responsibility for their treatment to improve their overall health.

Based on this research, we recommend that clinical applications of our findings include integrating psychosocial care at the initial diagnosis of diabetes. Early psychological support can significantly alleviate the emotional impact and enhance patient management and adherence to treatment plans. This approach not only addresses the medical aspects of diabetes but also the psychological well-being of patients, ensuring a holistic treatment methodology.

For the next research, we suggest focusing on the interventions most needed by people with diabetes, especially to address psychosocial issues. This research could explore the effectiveness of various psychosocial interventions, such as cognitive-behavioral therapy, peer support programs, or stress management techniques, in improving the psychological well-being of individuals with diabetes. It would be valuable to identify which interventions are most effective in reducing stress, anxiety,

and depression among this population and how these improvements can contribute to better diabetes management. This approach could help develop tailored intervention programs that address the psychological and physiological needs of people with diabetes.

ACKNOWLEDGMENTS

The authors express their appreciation to the University of Muhammadiyah Malang, Indonesia and the participants of this study. There is no funding for this study.

REFERENCES

- Aljuaid, M. O., Almutairi, A. M., Assiri, M. A., Almalki, D. M., & Alswat, K. (2018). Diabetes-related distress assessment among type 2 diabetes patients. *Journal of Diabetes Research*, 2018, Article 7328128. <https://doi.org/10.1155/2018/7328128>
- Arifin, B., van Asselt, A. D. I., Setiawan, D., Atthobari, J., Postma, M. J., & Cao, Q. (2019). Diabetes distress in Indonesian patients with type 2 diabetes: A comparison between primary and tertiary care. *BMC Health Services Research*, 19, Article 773. <https://doi.org/10.1186/s12913-019-4515-1>
- Austin, W., & Kunyk, D. (2019). *Psychiatric and mental health nursing for Canadian practice*. Wolters Kluwer.
- Bădescu, S. V., Tătaru, C., Kobylinska, L., Georgescu, E. L., Zahiu, D. M., Zăgrean, A. M., & Zăgrean, L. (2016). The association between diabetes mellitus and depression. *Journal of Medicine and Life*, 9(2), 120-125.
- Berry, E., Lockhart, S., Davies, M., Lindsay, J. R., & Dempster, M. (2015). Diabetes distress: Understanding the hidden struggles of living with diabetes and exploring intervention strategies. *Postgraduate Medical Journal*,

- 91(1075), 278-283. <https://doi.org/10.1136/postgradmedj-2014-133017>
- Bo, A., Pouwer, F., Juul, L., Nicolaisen, S. K., & Maindal, H. T. (2020). Prevalence and correlates of diabetes distress, perceived stress and depressive symptoms among adults with early-onset Type 2 diabetes: Cross-sectional survey results from the Danish DD2 study. *Diabetic Medicine*, 37(10), 1679-1987. <https://doi.org/10.1111/dme.14087>
- Cadore, E. L., & Izquierdo, M. (2015). Exercise interventions in polypathological aging patients that coexist with diabetes mellitus: Improving functional status and quality of life. *Age*, 37, Article 64. <https://doi.org/10.1007/s11357-015-9800-2>
- Creswell, J. W. (2012). *Qualitative inquiry and research design: Choosing among five approaches*. Sage Publications.
- da Silva, J. A., de Souza, E. C. F. d., Böschmeier, A. G. E., da Costa, C. C. M., Bezerra, H. S., & Feitosa, E. E. L. C. (2018). Diagnosis of diabetes mellitus and living with a chronic condition: Participatory study. *BMC Public Health*, 18, Article 699. <https://doi.org/10.1186/s12889-018-5637-9>
- Dunning, T. (2013). *Care of people with diabetes: A manual of nursing practice* (4th ed.). John Wiley & Sons.
- Fisher, L., Hessler, D., Polonsky, W., Strycker, L., Bowyer, V., & Masharani, U. (2019). Toward effective interventions to reduce diabetes distress among adults with type 1 diabetes: Enhancing Emotion regulation and cognitive skills. *Patient Education and Counseling*, 102(8), 1499-1505. <https://doi.org/10.1016/j.pec.2019.03.021>
- Gillani, S. W., Sulaiman, S. A. S., Abdul, M. I. M., & Saad, S. Y. (2017). A qualitative study to explore the perception and behavior of patients towards diabetes management with physical disability. *Diabetology & Metabolic Syndrome*, 9, Article 58. <https://doi.org/10.1186/s13098-017-0257-6>
- Gómez-Pimienta, E., González-Castro, T. B., Fresan, A., Juárez-Rojop, I. E., Martínez-López, M. C., Barjau-Madrigal, H. A., Ramírez-González, I. R., Martínez-Villaseñor, E., Rodríguez-Sánchez, E., Villar-Soto, M., López-Narváez, M. L., Tovilla-Zárate, C. A., & Genis-Mendoza, A. D. (2019). Decreased quality of life in individuals with type 2 diabetes mellitus is associated with emotional distress. *International Journal of Environmental Research and Public Health*, 16(15), Article 2652. <https://doi.org/10.3390/ijerph16152652>
- Harrison, A. (2007). The role of the nurse in liaison psychiatry. In G. Lloyd & E. Guthrie (Eds.), *Handbook of liaison psychiatry* (pp. 102-122). Cambridge University Press. <https://doi.org/10.1017/CBO9780511543975.007>
- Hessler, D., Fisher, L., Glasgow, R. E., Strycker, L. A., Dickinson, L. M., Areal, P. A., & Masharani, U. (2014). Reductions in regimen distress are associated with improved management and glycemic control over time. *Diabetes Care*, 37(3), 617-624. <https://doi.org/10.2337/dc13-0762>
- International Diabetes Federation. (2019). *IDF diabetes atlas: Ninth edition 2019*. https://diabetesatlas.org/upload/resources/material/20200302_133351_IDFATLAS9e-final-web.pdf
- Jannoo, Z., Wah, Y. B., Lazim, A. M., & Hassali, M. A. (2017). Examining diabetes distress, medication adherence, diabetes self-care activities, diabetes-specific quality of life and health-related quality of life among type 2 diabetes mellitus patients. *Journal of Clinical & Translational Endocrinology*, 9, 48-54. <https://doi.org/10.1016/j.jcte.2017.07.003>
- Kumar, N., Unnikrishnan, B., Thapar, R., Mithra, P., Kulkarni, V., Holla, R., Bhagawan, D., Kumar, A., & Aithal, S. (2017). Distress and its effect on adherence to antidiabetic medications

- among type 2 diabetes patients in Coastal South India. *Journal of natural Science, Biology, and Medicine*, 8(2), 216-220. <https://doi.org/10.4103/0976-9668.210008>
- Maltby, J., Williams, G., McGarry, J., & Day, L. (2010). *Research methods for nursing and healthcare*. Pearson Education Limited.
- Mikki, N., Ghandour, R., Norberg, M., Jerden, L., Stenlund, H., Imseeh, S., & Husseini, A. (2017). Retinopathy among patients with diabetes in Ramallah Governorate: A clinic-based study. *The Lancet*, 390(Special Issue), Article S39. [https://doi.org/10.1016/S0140-6736\(17\)32040-8](https://doi.org/10.1016/S0140-6736(17)32040-8)
- Miller, T. A., & Dimatteo, M. R. (2013). Importance of family/social support and impact on adherence to diabetic therapy. *Diabetes, Metabolic Syndrome and Obesity*, 6, 421-426. <https://doi.org/10.2147/DMSO.S36368>
- Ministry of Health Republic Indonesia. (2019). *Laporan nasional Riskesdas 2018* [Indonesia basic health research 2018]. <https://repository.badankebijakan.kemkes.go.id/id/eprint/3514/1/Laporan%20Riskesdas%202018%20Nasional.pdf>
- Park, C. Y., Kim, S. Y., Gil, J. W., Park, M. H., Park, J.-H., & Kim, Y. (2015). Depression among Korean adults with type 2 diabetes mellitus: Ansan-community-based epidemiological study. *Osong Public Health And Research Perspectives*, 6(4), 224-232. <https://doi.org/10.1016/j.phrp.2015.05.004>
- Perrin, N., Bodicoat, D. H., Davies, M. J., Robertson, N., Snoek, F. J., & Khunti, K. (2019). Effectiveness of psychoeducational interventions for the treatment of diabetes-specific emotional distress and glycaemic control in people with type 2 diabetes: A systematic review and meta-analysis. *Primary Care Diabetes*, 13(6), 556-567. <https://doi.org/10.1016/j.pcd.2019.04.001>
- Purewal, R., & Fisher, P. L. (2018). The contribution of illness perceptions and metacognitive beliefs to anxiety and depression in adults with diabetes. *Diabetes Research and Clinical Practice*, 136, 16-22. <https://doi.org/10.1016/j.diabres.2017.11.029>
- Quek, J., Tan, G., Lim, K., Yap, C., Wong, M., & Soon, J. (2019). Diabetes distress and self-management in primary care in Singapore: Explorations through illness perception. *International Journal of Community Medicine and Public Health*, 6(2), 473-479. <https://doi.org/10.18203/2394-6040.ijcmph20190166>
- Ramkisson, S., Pillay, B. J., & Sibanda, W. (2017). Social support and coping in adults with type 2 diabetes. *African Journal of Primary Health Care & Family Medicine*, 9(1), Article a1405. <https://doi.org/10.4102/phcfm.v9i1.1405>
- Ranjbaran, S., Shojaeizadeh, D., Dehdari, T., Yaseri, M., & Shakibazadeh, E. (2020). Determinants of medication adherence among Iranian patients with type 2 diabetes: An application of health action process approach. *Heliyon*, 6(7), Article e04442. <https://doi.org/10.1016/j.heliyon.2020.e04442>
- Salinero-Fort, M. A., Gómez-Campelo, P., San Andrés-Rebollo, F. J., Cárdenas-Valladolid, J., Abánades-Herranz, J. C., de Santa Pau, E. C., Chico-Moraleja, R. M., Beamud-Victoria, D., de Miguel-Yanes, J. M., Jimenez-Garcia, R., López-de-Andres, A., Ramallo-Fariña, Y., De Burgos-Lunar, C., & The MADIABETES Research Group. (2018). Prevalence of depression in patients with type 2 diabetes mellitus in Spain (the DIADEMA Study): Results from the MADIABETES cohort. *BMJ Open*, 8(9), Article e020768. <https://doi.org/10.1136/bmjopen-2017-020768>
- Sankar, P., Sasikumar, P., Medayil, R., Jacob, R., & Sasidharan, S. (2018). High prevalence of distress among patients with type 2 diabetes (T2DM)—A hospital-based cross-sectional study from South India. *Diabetes*, 67(Supplement_1), Article 61-LB. <https://doi.org/10.2337/db18-61-LB>

- Shao, Y., Liang, L., Shi, L., Wan, C., & Yu, S. (2017). The effect of social support on glycemic control in patients with type 2 diabetes mellitus: The mediating roles of self-efficacy and adherence. *Journal of Diabetes Research*, 2017, Article 2804178. <https://doi.org/10.1155/2017/2804178>
- Sherwani, S. I., Khan, H. A., Ekhzaimy, A., Masood, A., & Sakharkar, M. K. (2016). Significance of HbA1c Test in diagnosis and prognosis of diabetic patients. *Biomark Insights*, 11. <https://doi.org/10.4137/bmi.S38440>
- Smith, J. A., Flowers, P., & Larkin, M. (2009). *Interpretative phenomenological analysis: Theory, method and research*. SAGE Publications Ltd.
- Speziale, H. S., Streubert, H. J., & Carpenter, D. R. (2011). *Qualitative research in nursing: Advancing the humanistic imperative*. Wolters Kluwer Health/Lippincott Williams & Wilkins.
- Sun, N., Lou, P., Shang, Y., Zhang, P., Wang, J., Chang, G., & Shi, C. (2016). Prevalence and determinants of depressive and anxiety symptoms in adults with type 2 diabetes in China: A cross-sectional study. *BMJ Open*, 6(8), Article e012540. <https://doi.org/10.1136/bmjopen-2016-012540>
- Tanenbaum, M. L., Kane, N. S., Kenowitz, J., & Gonzalez, J. S. (2016). Diabetes distress from the patient's perspective: Qualitative themes and treatment regimen differences among adults with type 2 diabetes. *Journal of Diabetes and its Complications*, 30(6), 1060-1068. <https://doi.org/10.1016/j.jdiacomp.2016.04.023>
- Torkamani, N., Churilov, L., Robbins, R., Jerums, G., Beik, V., Radcliffe, N., Patterson, S., Bellomo, R., Burns, J., Hart, G. K., Lam, Q., Power, D. A., MacIsaac, R. J., Johnson, D. F., Zajac, J., & Ekinci, E. I. (2020). Diabetes and higher HbA1c levels are independently associated with adverse renal outcomes in inpatients following multiple hospital admissions. *Journal of Diabetes and its Complications*, 34(1), Article 107465. <https://doi.org/10.1016/j.jdiacomp.2019.107465>
- Townsend, M. C., & Morgan, K. I. (2018). *Psychiatric mental health nursing: Concepts of care in evidence-based practice* (Vol. 9). F.A. Davis Company.
- Wagner, J. A., Bermudez-Millan, A., Damio, G., Segura-Perez, S., Chhabra, J., Vergara, C., Feinn, R., & Perez-Escamilla, R. (2016). A randomized, controlled trial of a stress management intervention for Latinos with type 2 diabetes delivered by community health workers: Outcomes for psychological wellbeing, glycemic control, and cortisol. *Diabetes Research and Clinical Practice*, 120, 162-170. <https://doi.org/10.1016/j.diabetes.2016.07.022>
- Wong, E., Afshar, R., Zhang, M., Elliott, T. G., & Tang, T. S. (2015). Diabetes distress is associated with poor glycemic control among patients with type 2 diabetes presenting to a tertiary care setting in Vancouver. *Canadian Journal of Diabetes*, 39(6), 539-540. <https://doi.org/10.1016/j.jcjd.2015.09.053>

Validation and Reliability of the Revised Manipal Inventory of Academic Stress (MIAS) among Higher Secondary Students in Karnataka, India

Anirudh Ramesh¹, Shreemathi Sureshramana Mayya^{1*}, Maxie Martis² and Arun Mayya³

¹*Department of Data Science, Prasanna School of Public Health, Manipal Academy of Higher Education, Manipal 576104, India*

²*Nursing College, All India Institute of Medical Sciences, Bhopal 462020, India*

³*Department of Conservative Dentistry and Endodontics, Manipal College of Dental Sciences, Manipal Academy of Higher Education, Manipal 576104, India*

ABSTRACT

The Manipal Inventory of Academic Stress (MIAS) is designed to assess academic stress among higher secondary students in Karnataka, India. This study aims to validate an updated version of the MIAS, refined to an 18-item scale from its original 19-item format. A cross-sectional survey was conducted among 533 students (189 males and 344 females) from commerce and science streams. Exploratory and confirmatory factor analyses supported a unidimensional model of the MIAS, explaining 40.3% of the variance. The MIAS demonstrated high internal consistency (Cronbach's alpha = 0.923) and significant positive correlations with the Perceived Stress Scale ($r=0.789, p<0.001$) and the stress subscale of the Depression Anxiety Stress Scales-21 ($r=0.707, p<0.001$), along with a negative correlation with the Rosenberg Self-Esteem Scale ($r=-0.751$), indicating good concurrent and convergent validity. These findings underscore the MIAS's efficacy as a screening tool for academic stress in the Indian educational context. Its application can facilitate timely interventions, such as counseling or stress management programs, potentially mitigating adverse mental health outcomes in this demographic.

ARTICLE INFO

Article history:

Received: 13 November 2023

Accepted: 29 July 2024

Published: 16 December 2024

DOI: <https://doi.org/10.47836/pjssh.32.4.03>

E-mail addresses:

anirudhramesh1609@gmail.com (Anirudh Ramesh)

shreemathi.mayya@manipal.edu (Shreemathi Sureshramana Mayya)

maxie.nursing@aiimsbhopal.edu.in (Maxie Martis)

mayya.arun@manipal.com (Arun Mayya)

* Corresponding author

Keywords: Academic stress, Depression Anxiety Stress Scales-21 (DASS-21), higher secondary students, India, Manipal Inventory of Academic Stress (MIAS), Perceived Stress Scale (PSS), Rosenberg Self-Esteem Scale (RSES), validation study

INTRODUCTION

Academic stress is a pervasive issue affecting adolescents worldwide, with significant implications for their mental well-being and academic performance. As the academic landscape becomes increasingly competitive, students grapple with stress from concerns over academic achievements, fear of failure, and high expectations (Lazarus & Folkman, 1984; Verma & Gupta, 1990). This form of stress is exacerbated by various environmental factors, including pressures from home, school, and peer relationships (Anderson et al., 2005). Academic stress has emerged as a critical public health and educational concern in India, particularly given the societal emphasis on academic success and its associated mental health repercussions (Deb et al., 2014; Pascoe et al., 2020).

Research indicates that academic stress can lead to adverse psychological and physical outcomes, including anxiety, depression, sleep disturbances, and reduced academic achievement (Estrada-Araoz et al., 2024; Pascoe et al., 2020). Female students, in particular, are more vulnerable to academic stress and its negative impacts compared to male students (Chyu & Chen, 2022; Jiang et al., 2021). Factors such as family expectations, peer pressure, and personal traits like perfectionism and self-efficacy significantly contribute to the stress experienced by adolescents (Hosseinkhani et al., 2019; Lisnyj et al., 2023). Studies have shown that approximately one in six students experience excessive distress, influenced by gender, anxiety proneness,

lifestyle, and social connectedness (Lisnyj et al., 2023; Wuthrich et al., 2020).

In India, the prevalence of academic stress among higher secondary students is alarmingly high, with studies reporting significant stress levels in this demographic (Deb et al., 2014; Rentala et al., 2019; Roy et al., 2017; Subramani & Venkatachalam, 2019). For instance, research conducted in Kolkata found that 63.5% of higher secondary students faced academic stress (Deb et al., 2015). The National Crime Records Bureau (2021) highlighted that those students accounted for 8% of total suicides in India, with academic failure contributing to this statistic. India's large adolescent population further emphasizes the urgency of addressing academic stress and the stigmas surrounding mental health (United Nations International Children's Emergency Fund, 2019; World Health Organization, 2020).

Existing instruments for measuring academic stress in India, such as the Perceived Stress Scale (PSS) and the Academic Expectations Stress Inventory (AESI), offer valuable insights but have limitations. The PSS measures general rather than specific academic stress and lacks contextual relevance for Indian students (Ang & Huan, 2006; S. Cohen et al., 1983). While the AESI focuses on academic stress and has good validity and reliability, it may not encompass all relevant stressors specific to the Indian context and could carry cultural biases (Ang & Huan, 2006). The Manipal Inventory of Academic Stress (MIAS) was developed to address

these gaps, providing a contextually relevant tool tailored to the academic and cultural environment of Indian higher secondary students. The importance of culturally relevant stress assessment instruments is underscored by various studies that highlight the need for context-specific tools (Nooripour et al., 2024).

The MIAS comprehensively evaluates various sources of academic stress, including expectations from teachers, parents, and peers, academic workload, exam complexity, and societal pressures. Its contextual relevance, combined with high reliability and validity, makes the MIAS a potent tool for early detection of academic stress, facilitating timely interventions such as counseling or stress management programs (Mayya, Martis, et al., 2022; Mayya, Mayya, et al., 2022). By addressing these stressors, the MIAS enables educators and mental health professionals to implement targeted interventions and support, thereby significantly contributing to the well-being of students.

The present study aims to validate the revised MIAS, specifically developed to assess the stressors encountered by higher secondary students in Karnataka, India. The study objectives include validating the updated MIAS, assessing its effectiveness in capturing unique stressors, and evaluating its concurrent and convergent validity with established measures such as the PSS, Rosenberg Self-Esteem Scale (RSES), and Depression Anxiety Stress Scales-21 (DASS-21).

METHODOLOGY

Study Design, Participants and Setting

The present study used a cross-sectional survey among Higher-Secondary (Grade 11 and 12) students enrolled in the science and commerce stream in the Udupi District of Karnataka, India, from February to April 2021.

Sampling Technique and Sample Size

Three private and three public schools were selected randomly from the Udupi District to collect data from all consenting students in the science and commerce streams.

A sample size of 500 is considered 'very good' (Rules of Thumb guideline) for factor analysis (Van Voorhis & Morgan, 2007). The total number of respondents for MIAS was 533, which is (well above 500) adequate for Exploratory Factor Analysis and Confirmatory Factor Analysis (Table 2). To test the concurrent and convergent validity of MIAS, we correlated the score with other measures (PSS, DASS-21, RSES). Anticipating a minimum correlation of 0.3 between MIAS and other scales and subscale scores, the study would require a minimum sample size of 143 to estimate the expected correlation with a precision of 0.15 and 95% confidence (Moinester & Gottfried, 2014). For all the measures, a minimum of 154 subjects responded to the present study (Table 3).

Instruments

Demographic Variables

Socio-demographic variables: This study collected the participants' age, gender,

grade, and stream of education, in addition to other measures.

Manipal Inventory of Academic Stress

The MIAS initially contained 19 items. These items were selected from an original pool of 35, compiled through a literature review and discussions with Grade 11 and 12 students and teachers. The 35 items were then validated by twelve experts, including faculty from Psychiatry (1), Psychology (2), Medical Social Work (2), Statistics (2), English (1), Commerce (2), and Science (2). Faculty from Psychiatry, Psychology, and Medical Social Work were from an institute of medical science, while the remaining teachers had teaching experience in Grades 11 and 12.

The experts rated the relevance of each item for an academic stress scale on a 4-point scale: Not Relevant, Somewhat Relevant, Relevant, and Very Relevant. The Relevant and Very Relevant ratings were combined to calculate the percentage of items deemed relevant. Nineteen items that were rated as relevant by at least 80% of the experts were retained, following guidelines from the literature (Ayre & Scally, 2013).

The reliability and Confirmatory Factor Analysis suggesting one-dimensionality of the tool (19 items) is reported elsewhere. The first field study findings indicated no significant association of academic stress score with the medium of instruction and source of financial support for education (Mayya, Martis, et al., 2022). In the revised version of MIAS, two stressors, 'Lack of fluency in English' and 'Financial

difficulties' were dropped from the initial 19-item scale. Experts felt that language and financial difficulty may be assessed, including them with demographic variables. A new stressor, 'Unable to discuss academics with parents,' was added after the approval of experts who validated the initial 19-item scale, as participants indicated it as one of the stressors in the second field study (Mayya, Mayya et al., 2022). With this, the MIAS in the present study includes 18 items on a five-point Likert-type rating scale (Copyrighted: L-118839/2022 dated 21/11/22). The tool may be used with response choices 0 to 4 or 1 to 5. In the present study, the response choices given were no stress (1), slight stress (2), moderate stress (3), high stress (4), and extreme stress (5). Previous studies with 19 items reported the internal consistency for a pilot study at 0.87 and the main study at 0.91 (Mayya, Martis et al., 2022) and 0.90 (Mayya, Mayya et al., 2022), respectively.

Rosenberg Self-Esteem Scale (RSES)

The Rosenberg Self-Esteem Scale is a widely used psychological tool to assess a person's self-esteem or self-worth (Rosenberg, 1989). It consists of ten statements, with the respondent indicating the extent to which they agree or disagree with each statement on a four-point scale. The statements are designed to measure both positive and negative feelings about oneself. In the current study, the five positive statements are scored, giving "Strongly Agree" 4 points, "Agree" 3 points, "Disagree" 2 points, and "Strongly Disagree" 1 point

and the five negative statements are reverse scored. The scores are then summed up to produce a total score, with the possible range of scores being 10 to 40. Higher scores indicate higher self-esteem. Morris Rosenberg, the author of the Rosenberg Self-Esteem Scale, reported an internal consistency coefficient (Cronbach's alpha) of 0.92 for the original version of the scale (Rosenberg, 1965). Several subsequent studies have replicated the high internal consistency of the scale. For instance, a study of Psychometric Properties of the Rosenberg Self-Esteem Scale in the U.S. population across 30 demographic groups found an average Cronbach's alpha of 0.90 (range 0.84 to 0.95, and 0.91 for the overall sample), indicating a high level of internal consistency across demographic groups (Sinclair et al., 2010).

The Perceived Stress Scale (PSS)

The Perceived Stress Scale is a self-report questionnaire used to measure an individual's perceived stress level over the past month (S. Cohen et al., 1983; S. Cohen & Williamson, 1988). The scale was developed in 1983 and has since been widely used in research and clinical settings. The PSS consists of 10 items asking respondents to rate their feelings and thoughts about stressful events on a five-point Likert scale (ranging from 0 to 4 or 1 to 5). The questions assess the degree to which respondents feel that their lives are unpredictable, uncontrollable, and overloaded. The responses to the ten items are summed up to score the PSS, with some items being reverse-scored. The current

study coded the response categories as 1 to 5. The total score ranges from 10 to 50, with higher scores indicating higher levels of perceived stress. A review of 12 studies examining the psychometric properties of the PSS-10 reported Cronbach's alpha varying between 0.74 and 0.91, indicating good internal consistency (E. H. Lee, 2012).

The Depression Anxiety and Stress Scales-21 (DASS-21)

DASS-21 is a widely used self-report questionnaire designed to measure symptoms of depression, anxiety, and stress (Lovibond & Lovibond, 1995). It consists of 21 items, with seven assessing each of the three constructs. The items are scored on a four-point Likert scale (0-3 or 1 to 4), with higher scores indicating more severe symptoms. In score DASS-21, each item is summed to create a total score for each of the three subscales (depression, anxiety, and stress). The current study coded the response categories as 1 to 4. The total scores can range from 7 to 28 for each subscale. The higher the score, the greater the severity of symptoms. DASS-21 was developed by Lovibond and Lovibond (1995) and has demonstrated good reliability and validity in various populations, including clinical and non-clinical samples (Antony et al., 1998; Brown et al., 1997; Henry & Crawford, 2005). Internal Consistency Reliability (Cronbach's Coefficient) for the DASS-21 across five different studies was 0.88 to 0.94 for depression, 0.80 to 0.87 for anxiety and 0.84 to 0.91 for stress (Sinclair et al., 2012). Another systematic review

examining the psychometric properties of the DASS-21 found an overall Cronbach's alpha of 0.90–.95 (6 studies), 0.82–0.94 for depression, 0.66 to 0.88 for anxiety, and 0.76 to 0.91 for stress, indicating excellent internal consistency (J. Lee et al., 2019).

Ethical Consideration

The study obtained approval from the Institutional Ethics Committee (IEC 414/2019, dated 14th November 2019). A document providing information for parents and an informed consent form were prepared to explain the objectives and importance of the survey, funding agency, project director, and institution. Participation was anonymous. Parents and students were assured of data confidentiality. The MIAS was completed without mentioning the participant's name to maintain anonymity.

Data Collection

Written permissions were obtained from the administrative heads of the secondary schools at each participating school. The information for parents and informed consent forms were sent to parents for consent. Consent and assent were obtained from the parents and students before the voluntary participation of the students. All participants were given a pen to complete the MIAS. A total of 600 participants (Grades 11 and 12) from three private and three public schools were invited to participate voluntarily in the present survey. Of the 600 students, 200 each were administered MIAS 18 and PSS 10, MIAS 18 and SES 10, and MIAS 18 and DASS -21. The response rate for MIAS 18 and PSS

10 was 181 (90.5%), MIAS 18 and RSES 10 was 198 (99%), and MIAS 18 and DASS-21 were 154 (77%). Complete data obtained from 533 (88.8%) students were included in the analysis. The combination of MIAS and DASS took an average of 35 minutes, and the other combined took 30 minutes for the students to complete the rating scales. The average time required to complete MIAS alone is 20 minutes.

Data Analysis

The free, open-source statistical software *Jamovi* version 2.3.24 was used to analyze the data. The tools' internal consistency reliability was assessed by computing Cronbach's alpha coefficient. Exploratory Factor Analysis (EFA) was used to identify the factor structure of MIAS 18. A confirmatory factor analysis was conducted to assess the fitness of the exploration model to the data. Pearson correlation coefficient was used to measure validity, correlating MIAS scores with scores on other tools.

RESULTS

A total of 533 participants responded to the MIAS. Of these respondents, 189 (35.5%) were male and 344 (64.5%) were female. There were 312 (59%) participants from the commerce stream and 221(41%) from the science stream. The participants included 240 (45%) students from grade 11 and 293 (55%) from grade 12. The age of the respondents ranged from 15 to 19 years (Mean = 16.70, SD = 0.71). The distribution of participants by grade, gender, and stream is shown in Table 1.

Table 1
Grade, stream and gender-wise distribution of participants

Grade	Gender	Stream of education		Total
		Commerce	Science	
		n (%)	n (%)	n (%)
Grade 11	Male	48 (39)	58 (49.6)	106 (44.2)
	Female	75 (61)	59 (50.4)	134 (55.8)
	Total	123 (100)	117 (100)	240 (100)
Grade 12	Male	52 (27.5)	31(29.8)	83(28.3)
	Female	137(72.5)	73(70.2)	210(71.7)
	Total	189 (100)	104 (100)	293 (100)
Total	Male	100 (32.1)	89 (40.3)	189 (35.5)
	Female	212 (67.9)	132 (59.7)	344 (64.5)
	Total	312 (100)	221 (100)	533 (100)

Source: Author’s work

Dimensionality of MIAS

The scale’s dimensionality was examined with Exploratory Factor Analysis and Confirmatory Factor Analysis (Floyd & Widaman, 1995; Furr, 2011; Singh et al., 2016).

Exploratory Factor Analysis (EFA) of MIAS

The sampling adequacy was examined prior to conducting the EFA. The Kaiser-Meyer-Olkin overall measure of sampling adequacy index was 0.948, well above the accepted level of 0.5 (Kaiser, 1970), Bartlett’s test of sphericity was significant, $\chi^2(153, N = 533) = 4067, p < 0.001$, indicating the adequacy of sample size and appropriateness of the correlation matrix for factor analysis. The ‘Principal axis factoring’ extraction method was used to measure the scores of the 18 items of MIAS. Eigenvalue > 1 and scree plot (Figure 1) were used as a basis to decide

the number of factors to retain. It resulted in a single factor explaining 40.3% of the total variance.

Confirmatory Factor Analysis (CFA) of MIAS

A confirmatory factor analysis (Floyd & Widaman, 1995) was carried out to evaluate the fitness of our exploration model to the collected data. The parameters for this analysis were estimated through the maximum likelihood method, a statistically robust approach (B. M. Byrne, 1994). Using a chi-square goodness of fit test, we noted that the observed model was significantly different from the expected model, $\chi^2(135) = 510, p < 0.001$.

However, it is important to consider that the significant result might be attributable to the large sample size. This notion is grounded in the fact that chi-square is sensitive to sample size, which can often lead to the rejection of the model even when

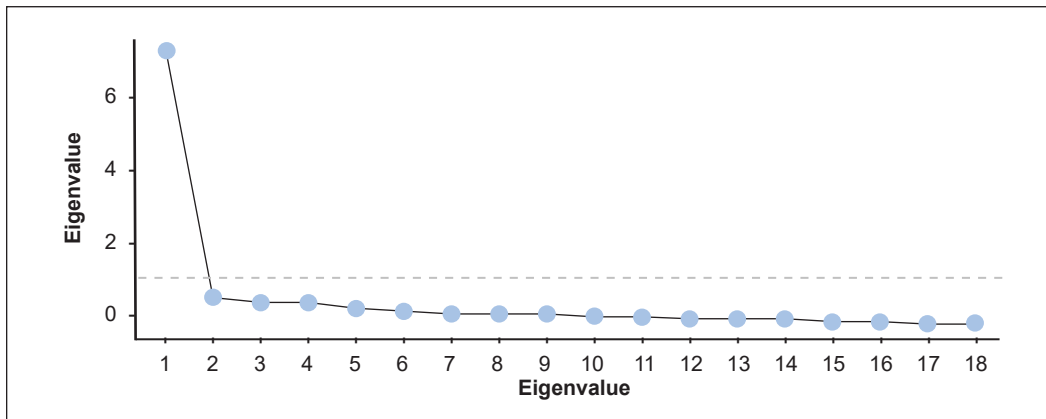


Figure 1. Scree plot indicating unidimensional model for the MIAS
 Source: Author’s work

Table 2
 Findings of factor analysis for the MIAS 18 items (N = 533)

S. No	Items	Exploratory Factor Analysis		Confirmatory Factor Analysis		
		Factor Loadings	Uniqueness	Factor Loadings	95% CI	
					Lower	Upper
1	Pressure from teachers for better results.	0.608	0.631	0.693	0.603	0.783
2	Poor interest in a few subjects	0.621	0.615	0.707	0.617	0.796
3	Lack of concentration during studies.	0.671	0.549	0.830	0.734	0.927
4	Hesitant to get help from teachers.	0.574	0.670	0.714	0.614	0.815
5	Unable to discuss academics with parents.	0.731	0.466	0.984	0.883	1.084
6	The examination syllabus is very vast.	0.591	0.650	0.743	0.642	0.843
7	The study materials are confusing.	0.713	0.492	0.876	0.784	0.968
8	Lack of time for revision.	0.669	0.553	0.878	0.777	0.979
9	Lack of time for co-curricular activities or hobbies.	0.582	0.662	0.771	0.666	0.876
10	Fear of failure in exams	0.637	0.594	0.873	0.766	0.980
11	Hectic school timetable	0.668	0.554	0.875	0.774	0.976
12	Too frequent class tests	0.615	0.622	0.785	0.684	0.885
13	Distractions due to social media.	0.563	0.684	0.719	0.616	0.822
14	Competitive learning environment	0.594	0.648	0.754	0.653	0.855
15	Lack of guidance to prepare for the exam.	0.689	0.525	0.854	0.758	0.949
16	Parents’ expectations about my performance.	0.657	0.569	0.886	0.780	0.992
17	Discussion and comparison among friends about how much revision has been done.	0.629	0.605	0.823	0.720	0.926
18	Academic queries from neighbors or relatives	0.587	0.655	0.825	0.712	0.938

Note. The ‘Principal axis factoring’ extraction method was used
 Source: Author’s work

the model has acceptable fit indices. Marsh et al. (1988) have therefore recommended the use of the Tucker-Lewis index (TLI) as a measure of relative fit that is relatively unaffected by sample size, a concept originally proposed by Tucker and Lewis (1973).

Therefore, we computed the TLI along with other commonly suggested fit indices such as the Comparative Fit Index (CFI), Root Mean Square Error of Approximation (RMSEA), and Standardized Root Mean Square Residual (SRMR). They provide different perspectives on model fit, with CFI and TLI focusing on relative fit and RMSEA and SRMR addressing absolute fit to evaluate how well the proposed model fits the observed data. The CFI measures model fit relative to a more restricted baseline model, typically the null model, which assumes no relationship among the variables. The TLI is a relative fit index that adjusts for the complexity of the model. It compares the fit of a specified model to a baseline model, taking into account the degrees of freedom. The RMSEA assesses how well a model approximates the data per degree of freedom. The SRMR is the standardized difference between the observed and predicted correlations. It is a measure of the mean absolute correlation residual. As Pituch and Stevens (2015) suggested, the thresholds for a good model fit include a CFI and TLI of 0.90 or higher, an RMSEA of 0.08 or lower, and an SRMR of 0.05 or lower.

In the context of the MIAS data, all these indices suggested an adequate fit to

the original factor structure. Specifically, the CFI was 0.906, TLI was 0.893, RMSEA was 0.072 (with a 95% confidence interval of 0.066 to 0.079), and SRMR was 0.044. Furthermore, the factor loadings for each item in the CFA were greater than 0.6 and in the exploration factor analysis (EFA), the values were above 0.50, as illustrated in Table 2.

In conclusion, the data fit to our exploration model was confirmed and was in accordance with the original factor structure, suggesting that our model holds strong validity.

Reliability of MIAS

Cronbach's alpha is a measure of internal consistency. A value >0.70 or higher indicates acceptable reliability (Nunnally & Bernstein, 1994; Robinson et al., 1991). In the current study, the internal consistency of MIAS (18 items) was 0.923.

The item-wise MIAS summary is shown in Table 3. Item reliability of MIAS was further examined using the item-discrimination index. The corrected item to total correlation varied between 0.538 and 0.698. Suppose an item correlates highly with the total score. In that case, it suggests that individuals who score high on that item also tend to score high overall (and vice versa), indicating that the item is discriminative and valid and that it is a good contributor to the overall construct being measured (DeVellis, 2017; Nunnally & Bernstein, 1994). Generalized Discrimination index (Metsämuuronen, 2020) for Likert-type items based on the

top 27% and bottom 27% of the students on MIAS Score varied between 0.431 to 0.628. This index focuses more specifically on how well an item can distinguish between high- and low-scorers on the MIAS scale. High values on both measures would generally indicate a good, discriminative item. A discrimination index of 0.3 or greater is considered highly discriminated against. For MIAS, both measures for all 18 items were greater than 0.4, indicating a good discriminating ability (Table 3).

Concurrent and Convergent Validity of MIAS

The concurrent and convergent validity of the MIAS was examined by correlating its score with those from the Perceived Stress Scale (PSS), Rosenberg Self Esteem Scale (RSES), the Depression Anxiety Stress Scales-21 (DASS-21) and its subscales.

The internal consistency of RSES was 0.72, and that of PSS was 0.904. The overall reliability of DASS-21 was 0.923, with subscale reliabilities of 0.805 for

Table 3

Item-wise summary, discriminating index and corrected item to total correlation

Items	Mean	SD	Dis. Index*	Corrected item to total correlation	If the item dropped, Cronbach's alpha
1. Pressure from teachers for better results.	2.278	1.138	0.431	0.582	0.919
2. Poor interest in a few subjects	2.396	1.135	0.455	0.592	0.919
3. Lack of concentration during studies.	2.644	1.248	0.547	0.646	0.918
4. Hesitant to get help from teachers.	2.238	1.250	0.477	0.552	0.920
5. Unable to discuss academics with parents.	2.649	1.343	0.628	0.698	0.916
6. The examination syllabus is very vast.	2.081	1.261	0.484	0.568	0.920
7. The study materials are confusing.	2.326	1.226	0.536	0.682	0.917
8. Lack of time for revision.	2.743	1.308	0.559	0.638	0.918
9. Lack of time for co-curricular activities or hobbies.	2.405	1.315	0.510	0.555	0.920
10. Fear of failure in exams	2.409	1.373	0.592	0.610	0.919
11. Hectic school timetable	2.306	1.306	0.554	0.639	0.918
12. Too frequent class tests	2.405	1.273	0.497	0.588	0.919
13. Distractions due to social media.	2.330	1.279	0.479	0.538	0.920
14. Competitive learning environment	2.445	1.270	0.484	0.570	0.920
15. Lack of guidance to prepare for the exam.	2.174	1.247	0.540	0.662	0.917
16. Parents' expectations about my performance.	2.932	1.362	0.590	0.634	0.918
17. Discussion and comparison among friends about how much revision has been done.	2.443	1.313	0.536	0.606	0.919
18. Academic queries from neighbors or relatives	2.773	1.415	0.533	0.567	0.920

Note. *Generalized Discrimination index (Metsämuuronen, 2020)

Source: Author's work

Depression, 0.822 for Anxiety, and 0.903 for Stress, respectively (Table 4). The internal consistency of RSES was in the acceptable range, and all other tools have shown high internal consistency.

Pearson’s Correlation coefficient (*r*) was used to measure validity. The coefficient (*r*) is a widely used measure of the linear relationship between two continuous variables. The coefficient quantifies the strength and direction of their relationship, ranging from -1 (perfect negative correlation) to 1 (perfect positive correlation). When *r* is close to 0, it indicates negligible or no linear relationship between the variables. Positive coefficients indicate that both variables vary in the same direction, whereas negative coefficients indicate that as one variable increases, the other decreases. J. Cohen (1992) provided guidelines for interpreting Pearson’s *r* values: 0.10, 0.30, and 0.50, commonly indicative of small, medium, and large effects, respectively. Effect size provides insight into the practical significance of the coefficient.

The MIAS scores were correlated with PSS scores and the ‘Stress’ subscale of DASS-21 to establish concurrent validity. Concurrent validity is indicated if these correlations are positive, which was our hypothesis. This hypothesis was confirmed, with MIAS showing a significant positive correlation with PSS ($r=0.789, p<0.001$) and the ‘Stress’ Score from DA-SS21 ($r=0.707, p<0.001$; Table 4).

Convergent validity was examined next, assessing how well the new measure correlates with other theoretically aligned measures. As academic stress and self-esteem are constructs tied to individual perceptions of academic abilities and experiences, we expected a moderate negative correlation between MIAS scores and RSES scores. It was observed in the study that MIAS and RSES showed a significant negative correlation ($r=-0.751, p<0.001$; Table 4).

Further convergent validity testing was done by correlating MIAS scores with the DASS-21 scale and subscale scores. The

Table 4
Summary of scale scores, internal consistency and correlation with MIAS 18

Scales (no. of items)	Descriptive Statistics				Pearson’s Correlation			
	n	Mean	SD	Alpha	MIAS	Stress	Anxiety	Depression
MIAS 18	533	43.98	15.20	0.923	1			
PSS 10	181	28.85	9.04	0.904	0.789**			
RSES 10	198	26.47	3.59	0.720	-0.751**			
DASS Scale and Subscales								
Stress 7	154	12.78	5.00	0.903	0.707**	0.644**		0.617**
Anxiety 7	154	11.56	3.90	0.822	0.678**			0.607**
Depression 7	154	11.36	3.68	0.805	0.629**			1
DASS-21	154	35.7	10.9	0.923	0.779**	0.897**	0.857**	0.837**

Note. ** $p<0.001$

Source: Author’s work

‘Depression’ (Ang & Huan, 2006; Liu & Tein, 2005; Sun et al., 2011) and ‘Anxiety’ (Ang & Huan, 2006) subscales of DASS-21 were chosen as criterion measures due to their known association with perceived academic stress. MIAS scores yielded significant positive correlations with the overall DASS-21 score ($r=0.779, p<0.001$) and all its subscales, suggesting that those perceiving greater academic stress also experienced greater anxiety ($r=0.678, p<0.001$) and depression ($r=0.629, p<0.001$). All correlation coefficients were >0.5 (Table 5), indicating a large effect size (J. Cohen, 1992), thus demonstrating good convergent validity.

Effectiveness of MIAS in Capturing Unique Stressors

The mean MIAS score ($n=533$) was 43.98, with a standard deviation of 15.20, showing a wide range of perceived academic stress among students.

The demographic variables, gender and grade were not associated with academic

stress scores. Science stream students scored significantly higher on academic stress than students from the commerce stream ($p=0.016$, effect size=0.212; Table 5).

DISCUSSION

Validation of the MIAS

The Manipal Inventory of Academic Stress (MIAS) was specifically developed to address higher secondary students’ unique academic stressors in Karnataka, India. Its comprehensive assessment capabilities, high internal consistency (Cronbach’s alpha of 0.923), and good discriminating ability make it a robust tool for identifying academic stress. Previous studies have highlighted the importance of context-specific tools in accurately capturing the stressors unique to particular demographics (Renk & Smith, 2007; Stallman & Hurst, 2016). With its tailored design, the MIAS fills a critical gap in the available instruments for measuring academic stress in Indian students. Evidence from EFA and CFA validates the unidimensional model fit of

Table 5
Demographic variable associated with MIAS Score

Variable Category	n	Mean (SD)	t	p-value	95% CI of Mean difference	Effect Size (Cohen’s d)
Gender						
Male	189	43.2 (14.9)	0.86	0.389	-1.52 to 3.89	0.078
Female	344	44.4 (15.3)				
Grade						
Grade 11	240	44.5 (15.9)	0.67	0.505	-1.72 to 3.48	0.058
Grade 12	293	43.6 (14.7)				
Stream						
Commerce	312	42.7 (15.5)	2.41	0.016	0.587 to 5.81	0.212
Science	221	45.9 (14.6)				

Source: Author’s work

the revised MIAS and supports the use of the MIAS total score to identify students under high academic stress.

Concurrent and Convergent Validity

The MIAS score correlates positively with the PSS score, DASS-21 overall score and its subscale scores, and negatively with the RSES score, demonstrating strong concurrent and convergent validity. It aligns with existing literature that supports the positive correlations of perceived academic stress scale scores with depression, anxiety, and stress indicators and the negative correlation with self-esteem (Ang & Huan, 2006; D. G. Byrne et al., 2007; Noreen et al., 2021; Stallman & Hurst, 2016; Sun et al., 2011). These associations substantiate the construct validity of the MIAS, indicating that those perceiving higher academic stress also experience higher levels of depression, anxiety, and stress and lower self-esteem.

Findings on Demographic Factors

The present study did not find significant gender differences in academic stress levels, contrasting with previous literature that typically reports higher stress levels among female students (Chyu & Chen, 2022; García-Ros et al., 2018; Jiang et al., 2021; Pant et al., 2023; Ye et al., 2018). This unexpected finding could be attributed to evolving gender roles in the Indian context, increased support systems for female students, or shifts in societal norms that affect stress perception and reporting. Further research is needed to explore these possibilities and understand

the underlying factors. The study revealed significantly higher stress levels among science stream students than commerce students, aligning with existing literature indicating students' intense pressure in science streams (Bhat et al., 2018; Mayya, Martis, et al., 2022). However, no significant grade-wise difference was noted, suggesting that stress levels might be influenced more by the stream of education rather than the academic grade. This finding contrasts with previous studies that reported higher stress levels among students in higher grades (Pant et al., 2023). Overall, these results highlight the need for targeted interventions to address academic stress among students based on their specific demographic characteristics.

CONCLUSION

The Manipal Inventory of Academic Stress (MIAS) has been validated as a reliable and effective tool for assessing academic stress among higher secondary students in Karnataka. Its high internal consistency and strong correlations with other established measures underscore its value in research and practical contexts. By capturing the unique stressors faced by this demographic, the MIAS serves as a critical instrument for early detection and intervention in academic stress management.

Refining the MIAS to an 18-item scale significantly enhances its accuracy and contextual relevance. This improved precision enables the identification of specific stressors unique to Indian higher secondary students, facilitating targeted interventions. The refined MIAS more

effectively captures the multifaceted nature of academic stress, including workload, peer pressure, and examination anxiety, offering deeper insights into its determinants.

Future studies should build on these findings to further support students' mental health and academic success. By expanding the use of MIAS and exploring its application in diverse educational settings, researchers can develop more effective, context-specific interventions for managing academic stress.

Implications for Practice

The refined MIAS offers a reliable and contextually relevant tool for early detection of high academic stress among Indian higher secondary students, aiding educators, counselors, and mental health professionals. Its application facilitates targeted and effective interventions, including stress management programs and counseling services tailored to students' unique needs. For instance, students scoring high on the MIAS can receive targeted counseling sessions to address specific stressors. Evidence-based interventions such as Mindfulness-Based Stress Reduction (MBSR) have been shown to reduce stress, anxiety, and depression by promoting mindfulness and self-awareness (Hazlett-Stevens & Oren, 2017; Hofmann & Gómez, 2017). Mindfulness-Based Interventions (MBI) effectively address behavioral issues and other stressful situations (Hosseini & Nooripour, 2019; Nooripour et al., 2021), reducing academic stress and enhancing cognitive and emotional outcomes

(Fulambarkar et al., 2023; Fung et al., 2019; Goyal et al., 2023). Cognitive-Behavioral Therapy (CBT) helps students develop coping strategies to manage stress and negative thought patterns (Demir & Ercan, 2022; Stallard, 2022). Social and Emotional Learning (SEL) programs enhance emotional intelligence, resilience, and interpersonal skills, mitigating academic stress (Green et al., 2021; Vestad & Tharaldsen, 2022). Holistic stress management programs, including yoga, meditation, and relaxation techniques, address stress's physical, mental, and emotional aspects (Rentala et al., 2019; Zisopoulou & Varvogli, 2023). School-based interventions, such as stress management workshops, peer support groups, and counseling services, have effectively reduced stress and improved well-being (Beauchemin, 2018; Feiss et al., 2019; Stallman et al., 2019). These programs can be tailored to address the specific stressors identified by the MIAS, providing a targeted and effective approach to stress management.

Limitations and Recommendations for Future Research

Despite its contributions, this study has limitations. The sample was confined to higher secondary students in Karnataka, which may limit the generalizability of the findings to other regions or educational levels. Further, the study's cross-sectional nature restricts the ability to infer causality between academic stress and its potential effects. Moreover, potential biases or confounding variables such as

socioeconomic status or parental education were not addressed, which might have impacted the results. Furthermore, self-reporting bias may have influenced the accuracy of the reported stress levels.

Future research should aim to replicate this study in diverse geographical and cultural settings to enhance the generalizability of the MIAS. Longitudinal studies are recommended to better understand academic stress's causal relationships and long-term effects. Qualitative methods like interviews and focus groups can provide deeper insights into students' experiences and coping strategies. Exploring other potential demographic factors, such as socioeconomic status and parental education, could provide a more comprehensive understanding of academic stress determinants.

ACKNOWLEDGMENTS

The authors thank the Indian Council of Social Science Research and MHRD (IMPRESS Scheme) for financial support (Grant No. MPRESS/P2828/226/2018-19/ICSSR) and the institutions and participants of this study.

REFERENCES

- Anderson, G. E., Jimerson, S. R., & Whipple, A. D. (2005). Student ratings of stressful experiences at home and school: Loss of a parent and grade retention as superlative stressors. *Journal of Applied School Psychology, 21*, 1-20. https://doi.org/10.1300/J370v21n01_01
- Ang, R. P., & Huan, V. S. (2006). Academic expectations stress inventory: Development, factor analysis, reliability, and validity. *Educational and Psychological Measurement, 66*(3), 522-539. <https://doi.org/10.1177/0013164405282461>
- Antony, M. M., Bieling, P. J., Cox, B. J., Enns, M. W., & Swinson, R. P. (1998). Psychometric properties of the 42-item and 21-item versions of the Depression Anxiety Stress Scales (DASS) in clinical groups and a community sample. *Psychological Assessment, 10*(2), 176-181. <https://doi.org/10.1037/1040-3590.10.2.176>
- Ayre, C., & Scally, A. J. (2013). Critical values for Lawshe's content validity ratio: Revisiting the original methods of calculation. *Measurement and Evaluation in Counseling and Development, 47*(1), 79-86. <https://doi.org/10.1177/0748175613513808>
- Beauchemin, J. D. (2018). Solution-focused wellness: A randomized controlled trial of college students. *Health and Social Work, 43*(2), 94-100. <https://doi.org/10.1093/hsw/hly007>
- Bhat, U. S., Amaresha, A. C., Kodancha, P., John, S., Kumar, S., Aiman, A., Jain, P. A., & Cherian, A. V. (2018). Psychological distress among college students of coastal district of Karnataka: A community-based cross-sectional survey. *Asian Journal of Psychiatry, 38*, 20-24. <https://doi.org/10.1016/j.ajp.2018.10.006>
- Brown, T. A., Korotitsch, W., Chorpita, B. F., & Barlow, D. H. (1997). Psychometric properties of the Depression Anxiety Stress Scales (DASS) in clinical samples. *Behaviour Research and Therapy, 35*(1), 79-89. [https://doi.org/10.1016/s0005-7967\(96\)00068-X](https://doi.org/10.1016/s0005-7967(96)00068-X)
- Byrne, B. M. (1994). *Structural Equation Modeling with EQS and EQS/WINDOWS: Basic concepts, applications, and programming*. SAGE Publications.
- Byrne, D. G., Davenport, S. C., & Mazanov, J. (2007). Profiles of adolescent stress: The development of the adolescent stress questionnaire (ASQ). *Journal of Adolescence, 30*(3), 393-416. <https://doi.org/10.1016/j.adolescence.2006.04.004>

- Chyu, E. P. Y., & Chen, J.-K. (2022). Associations between academic stress, mental distress, academic self-disclosure to parents and school engagement in Hong Kong. *Frontiers in Psychiatry, 13*, Article 911530. <https://doi.org/10.3389/fpsyt.2022.911530>
- Cohen, J. (1992). A power primer. *Psychological Bulletin, 112*(1), 155-159. <https://doi.org/10.1037/0033-2909.112.1.155>
- Cohen, S., & Williamson, G. (1988). Perceived stress in a probability sample of the U.S. In S. Spacapan & S. Oskamp (Eds.), *The social psychology of health: Claremont Symposium on Applied Social Psychology* (pp. 31-68). Sage.
- Cohen, S., Kamarck, T., & Mermelstein, R. (1983). A global measure of perceived stress. *Journal of Health and Social Behavior, 24*(4), 385-396. <https://doi.org/10.2307/2136404>
- Deb, S., Strodl, E., & Sun, J. (2014). Academic-related stress among private secondary school students in India. *Asian Education and Development Studies, 3*(2), 118-134. <https://doi.org/10.1108/AEDS-02-2013-0007>
- Deb, S., Strodl, E., & Sun, J. (2015). Academic stress, parental pressure, anxiety and mental health among Indian high school students. *International Journal of Psychology and Behavioral Sciences, 5*, 26-34.
- Demir, S., & Ercan, F. (2022). The effectiveness of cognitive behavioral therapy-based group counseling on depressive symptomatology, anxiety levels, automatic thoughts, and coping ways Turkish nursing students: A randomized controlled trial. *Perspectives in Psychiatric Care, 58*(4), 2394-2406. <https://doi.org/10.1111/ppc.13073>
- DeVellis, R. F. (2017). *Scale development: Theory and applications* (4th ed.). Sage.
- Estrada-Araoz, E. G., Farfán-Latorre, M., Lavilla-Condori, W. G., Quispe-Aquise, J., Lavilla-Condori, M. L., & Mamani-Roque, M. (2024). Academic stress and emotional exhaustion in university students: A cross-sectional study. *Gaceta Medica de Caracas, 132*(1), 57-67. <https://doi.org/10.47307/GMC.2024.132.1.6>
- Feiss, R., Dolinger, S. B., Merritt, M., Reiche, E., Martin, K., Yanes, J. A., Thomas, C.M., & Pangelinan, M. (2019). A systematic review and meta-analysis of school-based stress, anxiety, and depression prevention programs for adolescents. *Journal of Youth and Adolescence, 48*(9), 1668-1685. <https://doi.org/10.1007/s10964-019-01085-0>
- Floyd, F. J., & Widaman, K. F. (1995). Factor analysis in the development and refinement of clinical assessment instruments. *Psychological Assessment, 7*(3), 286-299. <https://doi.org/10.1037/1040-3590.7.3.286>
- Fulambarkar, N., Seo, B., Testerman, A., Rees, M., Bausback, K., & Bunge, E. (2023). Review: Meta-analysis on mindfulness-based interventions for adolescents' stress, depression, and anxiety in school settings: A cautionary tale. *Child and Adolescent Mental Health, 28*(2), 307-317. <https://doi.org/10.1111/camh.12572>
- Fung, J., Kim, J. J., Jin, J., Chen, G., Bear, L., & Lau, A. S. (2019). A randomized trial evaluating school-based mindfulness intervention for ethnic minority youth: Exploring mediators and moderators of intervention effects. *Journal of Abnormal Child Psychology, 47*(1), 1-19. <https://doi.org/10.1007/s10802-018-0425-7>
- Furr, R. M. (2011). *Scale construction and psychometrics for social and personality psychology*. Sage Publications. <https://doi.org/10.4135/9781446287866>
- García-Ros, R., Pérez-González, F., & Tomás, J. M. (2018). Development and validation of the questionnaire of academic stress in secondary education: Structure, reliability and nomological validity. *International Journal of Environmental*

- Research and Public Health*, 15(9), Article 2023. <https://doi.org/10.3390/ijerph15092023>
- Goyal, P., Chandra, M., & Choudhary, M. (2023). The effect of mindfulness practice on adolescents: A pilot study. *Journal of Indian Association for Child and Adolescent Mental Health*, 19(2), 207-214. <https://doi.org/10.1177/09731342231184628>
- Green, A. L., Ferrante, S., Boaz, T. L., Kutash, K., & Wheelodon-Reece, B. (2021). Evaluation of the SPARK Child Mentoring Program: A social and emotional learning curriculum for elementary school students. *Journal of Primary Prevention*, 42(5), 531-547. <https://doi.org/10.1007/s10935-021-00642-3>
- Hazlett-Stevens, H., & Oren, Y. (2017). Effectiveness of mindfulness-based stress reduction bibliotherapy: A preliminary randomized controlled trial. *Journal of Clinical Psychology*, 73(6), 626-637. <https://doi.org/10.1002/jclp.22370>
- Henry, J. D., & Crawford, J. R. (2005). The 21-item version of the Depression Anxiety Stress Scales (DASS-21): Normative data and psychometric evaluation in a large non-clinical sample. *British Journal of Clinical Psychology*, 44(2), 227-239. <https://doi.org/10.1348/014466505X29657>
- Hofmann, S. G., & Gómez, A. F. (2017). Mindfulness-based interventions for anxiety and depression. *Psychiatric Clinics of North America*, 40(4), 739-749. <https://doi.org/10.1016/j.psc.2017.08.008>
- Hosseini, S., & Nooripour, R. (2019). Effectiveness of mindfulness-based intervention on risky behaviors, resilience, and distress tolerance in adolescents. *International Journal of High Risk Behaviors and Addiction*, 8(4), Article e93481. <https://doi.org/10.5812/ijhrba.93481>
- Hosseinkhani, Z., Nedjat, S., Hassanabadi, H., & Parsaeian, M. (2019). Academic stress from the viewpoint of Iranian adolescents: A qualitative study. *Journal of Education and Health Promotion*, 8(1), Article 13. https://doi.org/10.4103/jehp.jehp_202_18
- Jiang, S., Ren, Q., Jiang, C., & Wang, L. (2021). Academic stress and depression of Chinese adolescents in junior high schools: Moderated mediation model of school burnout and self-esteem. *Journal of Affective Disorders*, 295, 384-389. <https://doi.org/10.1016/j.jad.2021.08.085>
- Kaiser, H. F. (1970). A second generation little jiffy. *Psychometrika*, 35, 401-415. <https://doi.org/10.1007/BF02291817>
- Lazarus, R. S., & Folkman, S. (1984). *Stress, appraisal, and coping*. Springer.
- Lee, E. H. (2012). Review of the psychometric evidence of the perceived stress scale. *Asian Nursing Research*, 6(4), 121-127. <https://doi.org/10.1016/j.anr.2012.08.004>
- Lee, J., Lee, E. H., & Moon, S. H. (2019). Systematic review of the measurement properties of the Depression Anxiety Stress Scales-21 by applying updated COSMIN methodology. *Quality of Life Research*, 28(9), 2325-2339. <https://doi.org/10.1007/s11136-019-02177-x>
- Lisnyj, K. T., Gillani, N., Pearl, D. L., McWhirter, J. E., & Papadopoulos, A. (2023). Factors associated with stress impacting academic success among post-secondary students: A systematic review. *Journal of American College Health*, 71(3), 851-861. <https://doi.org/10.1080/07448481.2021.1909037>
- Liu, X., & Tein, J. Y. (2005). Life events, psychopathology, and suicidal behavior in Chinese adolescents. *Journal of Affective Disorders*, 86(2-3), 195-203. <https://doi.org/10.1016/j.jad.2005.01.016>
- Lovibond, S. H., & Lovibond, P. F. (1995). *Manual for the depression anxiety stress scales*. (2nd ed.). Psychology Foundation.

- Marsh, H. W., Balla, J. R., & McDonald, R. P. (1988). Goodness-of-fit indexes in confirmatory factor analysis: The effect of sample size. *Psychological Bulletin*, *103*(3), 391-410. <https://doi.org/10.1037/0033-2909.103.3.391>
- Mayya, S. S., Martis, M., Mayya, A., Iyer, V. L., & Ramesh, A. (2022). Academic stress among pre-university students of the commerce stream: A study in Karnataka. *Pertanika Journal of Social Sciences & Humanities*, *30*(2), 605-621. <https://doi.org/10.47836/pjssh.30.2.10>
- Mayya, S. S., Mayya, A., Martis, M., & Lakshmi, R. V. (2022). Academic stress and associated sociodemographic variables: A study of pre-university students in Karnataka, India. *Journal of Education and Health Promotion*, *11*(1), Article p230. https://doi.org/10.4103/jehp.jehp_87_22
- Metsämuuronen, J. (2020). Generalized discrimination index. *International Journal of Educational Methodology*, *6*(2), 237-258. <https://doi.org/10.12973/ijem.6.2.237>
- Moinester, M., & Gottfried, R. (2014). Sample size estimation for correlations with pre-specified confidence interval. *The Quantitative Methods for Psychology*, *10*(2), 124-130. <https://doi.org/10.20982/tqmp.10.2.p124>
- National Crime Records Bureau. (2021). *Accidental Deaths & Suicides in India 2021*. Government of India. <https://www.ncrb.gov.in/uploads/nationalcrimerecordsbureau/post/1695989645/ADSI2021FullReport.pdf>
- Nooripour, R., Ghanbari, N., Hoseinian, S., HasaniAbharian, P., Dobkins, K., & Maadal, A. (2021). Effectiveness of mindfulness-based cognitive rehabilitation in reducing stress among hard of hearing adolescent girls. *International Journal of Behavioral Sciences*, *15*(2), 87-93. <https://doi.org/10.30491/ijbs.2021.253241.1400>
- Nooripour, R., Ilanloo, H., Naveshki, M., Naveshki, S., Amiri Majd, M., Sikström, S., & Jafari, F. (2024). Evaluation of COVID-19 stress in university students according to their socio-demographic characteristics based on machine learning algorithms. *Practice in Clinical Psychology*, *12*(1), 1-12. <https://doi.org/10.32598/jpcp.12.1.288.9>
- Noreen, S., Ghayas, S., Khalid, S., & Awan, S. M. (2021). Construction and validation of academic stress scale for university students. *Pakistan Journal of Education*, *38*(2), 1-24.
- Nunnally, J. C., & Bernstein, I. H. (1994). *Psychometric theory* (3rd ed.). McGraw-Hill.
- Pant, S., Rajbhandari, B., Gurung, M., Poudel, L., Maharjan, A., Nepal, S., Thapa, T. B., Malla, N., Lama, T., Sharma, D., Gurung, C., Parajuli, Y., & Panta, N. (2023). Academic stress among adolescents of rural Nepal: A community-based cross-sectional study. *Journal of Nepal Health Research Council*, *21*(1), 136-144.
- Pascoe, M. C., Hetrick, S. E., & Parker, A. G. (2020). The impact of stress on students in secondary school and higher education. *International Journal of Adolescence and Youth*, *25*(1), 104-112. <https://doi.org/10.1080/02673843.2019.1596823>
- Pituch, K. A., & Stevens, J. P. (2015). *Applied multivariate statistics for the social sciences: Analyses with SAS and IBM's SPSS* (6th ed.). Routledge. <https://doi.org/10.4324/9781315814919>
- Renk, K., & Smith, T. (2007). Predictors of academic-related stress in college students: An examination of coping, social support, parenting, and anxiety. *NASPA Journal*, *44*(3), 405-431. <https://doi.org/10.2202/1949-6605.1829>
- Rentala, S., Nayak, R. B., Patil, S. D., Hegde, G. S., & Aladakatti, R. (2019). Academic stress among Indian adolescent girls. *Journal of Education and*

- Health Promotion*, 8(1), Article 265843. https://doi.org/10.4103/jehp.jehp_116_19
- Robinson, J. P., Shaver, P. R., & Wrightsman, L. S. (1991). Criteria for scale selection and evaluation. In J. P. Robinson, P. R. Shaver, & L. S. Wrightsman (Eds.), *Measures of personality and social psychological attitudes* (pp. 1-16). California Academic Press. <https://doi.org/10.1016/B978-0-12-590241-0.50005-8>
- Rosenberg, M. (1965). *Society and the adolescent self-image*. Princeton University Press. <https://doi.org/10.1515/9781400876136>
- Rosenberg, M. (1989). *Society and the adolescent self-image* (Revised ed.). Wesleyan University Press.
- Roy, K., Kamath, V. G., Kamath, A., Alex, J., & Hegde, A. (2017). Prevalence of stress and stress tolerance levels among adolescent boys – a district level cross sectional study in South India. *International Journal of Adolescent Medicine and Health*, 29(4), Article 20150054. <https://doi.org/10.1515/ijamh-2015-0054>
- Sinclair, S. J., Blais, M. A., Gansler, D. A., Sandberg, E., Bistis, K., & LoCicero, A. (2010). Psychometric properties of the Rosenberg Self-Esteem Scale: Overall and across demographic groups living within the United States. *Evaluation & the Health Professions*, 33(1), 56-80. <https://doi.org/10.1177/0163278709356187>
- Sinclair, S. J., Siefert, C. J., Slavin-Mulford, J. M., Stein, M. B., Renna, M., & Blais, M. A. (2012). Psychometric evaluation and normative data for the depression, anxiety, and stress scales-21 (DASS-21) in a nonclinical sample of U.S. adults. *Evaluation & the Health Professions*, 35(3), 259-279. <https://doi.org/10.1177/0163278711424282>
- Singh, K., Junnarkar, M., & Kaur, J. (2016). *Measures of positive psychology: Development and validation*. Springer. <https://doi.org/10.1007/978-81-322-3631-3>
- Stallard, P. (2022). Evidence-based practice in cognitive-behavioural therapy. *Archives of Disease in Childhood*, 107(2), 109-113. <https://doi.org/10.1136/archdischild-2020-321249>
- Stallman, H. M., & Hurst, C. P. (2016). The university stress scale: Measuring domains and extent of stress in university students. *Australian Psychologist*, 51(2), 128-134. <https://doi.org/10.1111/ap.12127>
- Stallman, H. M., Ohan, J. L., & Chiera, B. (2019). Reducing distress in university students: A randomised control trial of two online interventions. *Australian Psychologist*, 54(2), 125-131. <https://doi.org/10.1111/ap.12375>
- Subramani, C., & Venkatachalam, J. (2019). Sources of academic stress among higher secondary school students. *International Review of Social Sciences and Humanities*, 9(7), 488-492.
- Sun, J., Dunne, M. P., Hou, X. Y., & Xu, A. Q. (2011). Educational stress scale for adolescents: Development, validity, and reliability with Chinese students. *Journal of Psychoeducational Assessment*, 29(6), 534-546. <https://doi.org/10.1177/0734282910394976>
- Tucker, L. R., & Lewis, C. (1973). A reliability coefficient for maximum likelihood factor analysis. *Psychometrika*, 38, 1-10. <https://doi.org/10.1007/BF02291170>
- United Nations International Children's Emergency Fund. (2019). *Adolescent development and participation*. <https://www.unicef.org/india/what-we-do/adolescent-development-participation>
- Van Voorhis, C. R. W., & Morgan, B. L. (2007). Understanding power and rules of thumb for determining sample sizes. *Tutorials in Quantitative Methods for Psychology*, 3(2), 43-50. <https://doi.org/10.20982/tqmp.03.2.p043>
- Verma, S., & Gupta, J. (1990). Some aspects of high academic stress and symptoms. *Journal of Personality and Clinical Studies*, 6(1), 7-12.

- Vestad, L., & Tharaldsen, K. B. (2022). Building social and emotional competencies for coping with academic stress among students in lower secondary school. *Scandinavian Journal of Educational Research*, 66(5), 907-921. <https://doi.org/10.1080/00313831.2021.1939145>
- World Health Organization. (2021, November 17). *Mental health of adolescents*. <https://www.who.int/news-room/fact-sheets/detail/adolescent-mental-health>
- Wuthrich, V. M., Jagiello, T., & Azzi, V. (2020). Academic stress in the final years of school: A systematic literature review. *Child Psychiatry & Human Development*, 51(6), 986-1015. <https://doi.org/10.1007/s10578-020-00981-y>
- Ye, L., Posada, A., & Liu, Y. (2018). The moderating effects of gender on the relationship between academic stress and academic self-efficacy. *International Journal of Stress Management*, 25(S1), 56-61. <https://doi.org/10.1037/str0000089>
- Zisopoulou, T., & Varvogli, L. (2023). Stress management methods in children and adolescents: Past, present, and future. *Hormone Research in Paediatrics*, 96(1), 97-107. <https://doi.org/10.1159/000526946>

Sexual Identity Development of Sexual-and-Gender Minority Among Malay Women in Malaysia

**Sharifah Zubaidiah Syed Jaapar¹, Rosediani Muhamad^{2*}, Asrenee Ab Razak¹,
Mujahid Bakar³, Rafidah Hanim Mokhtar⁴ and Azlina Ishak²**

¹*Department of Psychiatry, School of Medical Sciences, Universiti Sains Malaysia, 16150 Kota Bharu, Malaysia*

²*Department of Family Medicine, School of Medical Sciences, Universiti Sains Malaysia, 16150 Kota Bharu, Kelantan, Malaysia*

³*Interdisciplinary Health Science Unit, School of Health Sciences, Universiti Sains Malaysia, 16150 Kota Bharu, Kelantan, Malaysia*

⁴*Faculty of Medicine and Health Sciences, Universiti Sains Islam Malaysia, Bandar Baru Nilai, 71800 Nilai, Negeri Sembilan, Malaysia*

ABSTRACT

Understanding the sexual identity development of the sexual and gender minority among Malay women (SGMMW) is necessary for providing them with appropriate services. However, owing to a paucity of studies on this subject, the present study thus explores the sexual identity development of SGMMW. A phenomenology study was performed on 30 SGMMW. In-depth, semi-guided virtual interviews were conducted, each lasting 45–90 min. Recordings of the interviews were transcribed verbatim. Subsequently, all transcriptions were added to ATLAS.ti 8 for analysis and coding. Three themes were elucidated from the study: awareness of incongruence, exploration of self-identity, and consolidation in the L Community. These three themes represent three phases of the sexual identity development of SGMMW. In Phase 1, SGMMW becomes aware of their sexual orientation toward

females. In Phase 2, SGMMW explored information, community, and partners that could affirm their identities. In Phase 3, SGMMW consolidated itself into a new community that aligned with its new identity, also known as the L Community. Sexual identity development is influenced by environmental factors such as family, friends, institutions, and social media; personal factors such as a belief that men are bad; and behavioral factors such as

ARTICLE INFO

Article history:

Received: 19 November 2023

Accepted: 29 July 2024

Published: 16 December 2024

DOI: <https://doi.org/10.47836/pjssh.32.4.04>

E-mail addresses:

zubaidiah@usm.my (Sharifah Zubaidiah Syed Jaapar)

droosediani@gmail.com (Rosediani Muhamad)

asrenee@usm.my (Asrenee Ab Razak)

mujahid@usm.my (Mujahid Bakar)

rafidahhanim@usim.edu.my (Rafidah Hanim Mokhtar)

drzalinakk@usm.my (Azlina Ishak)

* Corresponding author

behaving like a man to protect the self and others. In conclusion, SGMMW identity development involves three phases and is influenced by environmental, personal, and behavioral factors.

Keywords: Gender minority, identity development, Malay women, sexual minority

INTRODUCTION

Malaysia is a multiethnic country where the Malays constitute the majority, and Islam is the federal religion (*Federal Constitution*, 2010). According to the Federal Constitution, a Malay person is defined as someone who speaks Malay, embraces Islam, and follows Malay customs. In traditional Malay culture, parents follow Islamic teachings and raise their children according to their gender at birth. Accordingly, Malay girls are taught to behave and dress in a manner that aligns with feminine norms. Islamic teachings prohibit gender imitation that does not align with one's birth sex and same-sex sexual activities, as clearly stated in the Qur'an and Hadith (Kadir et al., 2020). According to Islamic rules, sex only occurs after a legal marriage between opposite sexes or heterosexuals. However, not only Islam but other religions in Malaysia, such as Christianity, Buddhism, and Sikhism, do not accept homosexuality or transgender people (Kaur & Kaur, 2022; Yeo et al., 2021). Nevertheless, younger generations have rationalized homosexuality and transgender acceptance because human rights and, according to Buddhism, love

are the basic teachings (Jerome et al., 2021; Kaur & Kaur, 2022; Yeo et al., 2021).

The sexual minority among Malay women includes those who are sexually oriented toward women (lesbian), men and women (bisexual), or all genders (pansexual; Mahon et al., 2021). Meanwhile, lesbians who express themselves in feminine characters are known as *femme* or *lessy*, and those who express themselves in masculine characteristics are identified as *pengkid* (Aziz et al., 2019). Lesbians with masculine and feminine characteristics are referred to as *andro*. Andro-butcht individuals appear more like men with some feminine characteristics, and andro-femme individuals appear more like women and behave like *femme* (Upe et al., 2022). Malays who are born female but identify as men or have a strong desire to be men are transwomen. Therefore, the sexual-and-gender minority among Malay women (SGMMW) includes Malay women who identify themselves as lesbian, bisexual, pansexual, *pengkid*, *femme*, *andro*, or transmen.

Although laws, culture, and religions in Malaysia do not accept homosexual and transgender people, the numbers of SGMMW are growing (Juaini et al., 2017). The mental health burden in Malaysia is increasing because SGMMW is at risk of developing mental illnesses (Ibrahim et al., 2022; Juhari et al., 2022). Therefore, service providers should understand the process of the sexual identity development of SGMMW so that they can assist (Degges-White et al., 2000). However, the lack of knowledge among service providers about the sexual

identity development of SGMMW stems from the scarcity of previous studies on this topic. Therefore, this study explores the sexual identity development of SGMMW in Malaysia. The findings help service providers better understand the sexual identity development process of SGMMW and facilitate their plans to provide them with appropriate services.

LITERATURE REVIEW

In Islamic teachings, parents are the main individuals who mold the sexual or gender identity development of their children (Hermawati et al., 2020). Gender identity development begins once a child is born and identifies their sex. A father will recite the call to prayer (*azan*) into a boy's right ear or the *iqamah* into a girl's left ear. Subsequently, parents raise their children according to Islamic teachings, including aspects such as clothing choices, the expectations of males as leaders or protectors, and participation in rituals. Islam prohibits women's adoption of male appearances and *vice versa*, as referenced in the following Hadith: Narrated from Ibn 'Abbas R.A. that the Prophet Muhammad (PBUH) said: "The Prophet cursed effeminate men and those women who assume the similitude (manners) of men" [Hadith al-Bukhari: Book 7: Volume 72: Hadith 774].

In terms of sexual behavior, Islam prohibits premarital and extramarital affairs and same-sex sexual activities, as mentioned in the Qu'ran (7:80–84), regarding the punishment of men who have sex with men. Islam emphasizes prevention, such

as avoiding things that can lead to illegal sexual conduct. The Qur'an (17:32) clearly states this aspect: "And do not approach unlawful sexual intercourse. Indeed, it is ever an immorality and is evil as a way."

Likewise, other religions in Malaysia, such as Christianity, Buddhism, and Sikhism, do not agree with the promotion and acknowledgment of the sexual and gender minority (SGM; Jerome et al., 2021; Kaur & Kaur, 2022; Mokhtar & Yapp, 2021; Yeo et al., 2021). Homosexuality is a grave sin in the Catholic Church (Adejuwon, 2020). The Bible explicitly states that homosexuality is incompatible with God's intention for humanity. In addition, the Old Testament mentions the judgment executed against Sodom and Gomorrah in Genesis 18 and 19. However, progressive Christian groups comprehend the Bible in a way that includes everyone, focusing on love, kindness, and justice. They also support SGM rights and work toward accepting and including SGM people in the church (Bayne et al., 2021).

Buddhists' attitudes toward homosexuality vary depending on the society in which they practice. Buddhism accepts homosexuality, arguing that it is important to pay attention and intention to sexuality as per the Four Noble Truths and Eightfold Path (Alfian, 2022). However, based on the Buddhist Five Precepts, Buddhist scholars reject homosexuality, arguing that wrong sexual relations and homosexuality are deviations from Buddhist teachings and can lead to self-harm and harm to others (Alfian, 2022). Despite

the core teachings of Buddhism, cultural aspects of a society can be reasons to reject homosexuality.

The Malaysian Sikh community primarily relies on *Guru Granth Sahib* as an authoritative figure to comprehend sexual orientation and gender relationships (Kaur & Kaur, 2022). Sikhism values husband-wife and parent-child bonding as well as heterosexual marriage. Kaur and Kaur (2022) reported that most Malaysian Sikh youths have a positive view and can accept the existence of SGM in Malaysia despite their belief in the significance of maintaining a heterosexual marriage.

Studies have revealed that the inclination factors for the development of SGMW are family, peers, lack of Islamic knowledge, schools, and social media (Aziz et al., 2019; Hesamuddin et al., 2019; Juaini & Azman, 2021). Lack of affection from family and a history of having bad experiences with men pushed Malay women to seek affection from their peers (Jaapar et al., 2023). Receiving greater affection and emotional validation from peers or same-sex partners can lead Malay women to engage in lesbianism. Moreover, nurturing influences, such as a lack of Islamic teaching and appreciation, schools, and social media, further inclined the process of lesbianism (Jaapar et al., 2023).

The process of lesbianism or the development of SGMW can be elucidated through the lens of the social cognitive theory (SCT). Bandura (1986) extended SCT from social learning theory, emphasizing the role of cognitive processes, including attention, memory, and judgment, in mediating the

interaction between environmental inputs and behavior (Bandura, 1986). SCT acknowledges the impact of evolutionary mechanisms on human adaptation and change. In SCT, the reciprocal triad comprises three elements: (1) environmental factors, including culture, religion, politics, and laws; (2) personal factors, which involve cognitive, affective, and biological events; and (3) behaviors, which include actions, verbalizations, and decisions (Bussey & Bandura, 1999). In the “reciprocal triad interaction model” (Figure 1), people can construct their environment, be influenced by external environmental stimuli and personal factors, and opt whether to proceed with actions (Bandura, 2012). These triad factors influence each other bidirectionally, molding people’s thoughts, actions, and experiences. However, the bidirectional influence varies depending on each component’s time, situation, and action.

According to SCT, modeling is an environmental factor that influences gender development, which has been present since birth. Infants are sensitive to modeling and can learn from it, especially in interactive situations. A person learns about sexual

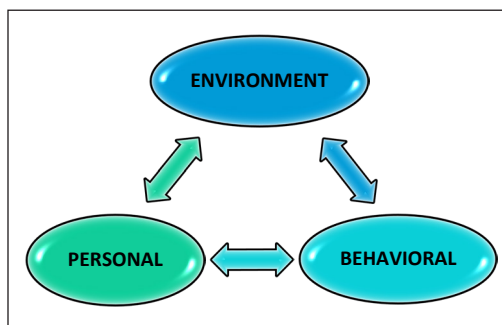


Figure 1. Reciprocal triad interaction model of social cognitive theory
Source: Bandura (2012)

identity, gender roles, and behavior by observing role models in their immediate environment, such as parents, peers, and significant figures in social, educational, and work settings. In addition, enactive experience and direct tuition influence gender development, although the impact varies by person and social structure (Bussey & Bandura, 1999). Enactive experience is based on understanding the gender dynamics of conduct rather than the outcomes of an individual's conduct. Societal acceptance mainly influences gender development. Meanwhile, direct tuition or education for individuals or small groups is an easy way to inform gender-related conduct.

Furthermore, SCT emphasizes the significance of self-efficacy in developing gender and sexual identity (Figure 1). Bandura (1986) highlighted that self-efficacy beliefs are crucial for motivation, performance, and resilience. High levels of self-efficacy contribute to increased effort, persistence, and performance, whereas low levels can lead to self-doubt and avoidance of challenging activities. Self-efficacy pertains to an individual's belief in their ability to effectively execute a particular behavior or task. Self-efficacy can influence how individuals navigate and express their gender roles and sexual orientation within the context of gender and sexual identity (Bussey & Bandura, 1999).

The number of users on lesbian social media is growing, which indicates an increase in the number of SGMMW in Malaysia (Juaini et al., 2017). This phenomenon would increase the mental health burden because

SGMMWs experience discrimination, internalized homophobia, and violence due to their sexual identity (Ibrahim et al., 2022). Furthermore, compared with heterosexual women, SGMMW is at a higher risk of substance abuse, depression, anxiety, and suicidal ideation and attempts (Jamal et al., 2019; Juhari et al., 2022). However, SGMMW hesitated to seek help owing to internalized homophobia, mental health illiteracy, and the perception that mental health professionals are incompetent (Hta et al., 2021).

The lack of knowledge and understanding of the development of SGMMW's sexual identity contributes to mental health professionals' incompetency in dealing with SGMMW (Jamal et al., 2018). Understanding lesbians' sexual identity development facilitates the intervention of mental health professionals. This understanding can guide the approaches used (Degges-White & Myers, 2005; McCarn & Fassinger, 1996). Sophie (1986) described the development of a lesbian's sexual identity as follows: sexual identity should be considered a flexible rather than a linear process, which involves progression and regression. Although some lesbians progress fluidly through stages, others may skip a stage or arrive at a different stage without a set pattern. Sophie (1986) reported four stages of lesbians: (1) awareness, (2) testing and exploration, (3) identity acceptance, and (4) identity integration (Table 1). However, lesbians may change their sexual orientation at any point and may not proceed toward identity integration.

Table 1
Development of lesbian identity

Sophie (1986)	McCarn & Fassinger (1996)	
	Individual	Group
Stage 1: Awareness	Phase 1: Awareness	Phase 1: Awareness
Stage 2: Testing and exploration	Phase 2: Exploration	Phase 2: Exploration
Stage 3: Identity acceptance	Phase 3: Deepening/commitment	Phase 3: Deepening/commitment
Stage 4: Identity integration	Phase 4: Internalization/synthesis	Phase 4: Internalization/synthesis

Source: Authors' work

McCarn and Fassinger (1996) established a linear model of lesbian identity development that proposed two separate dimensions of sexual identity: individual and group. Both dimensions have the same four phases of development: (1) awareness, (2) exploration, (3) deepening or commitment, and (4) internalization or synthesis (Table 1). According to the model, a person can progress through all four phases of unique identity development. It is more inclusive than others because it is influenced by race or ethnic and gender identity development models.

In the individual dimension, the awareness phase involves recognizing that her desire or feeling may differ from the heterosexual norm (McCarn & Fassinger, 1996). In the exploration phase, a person may have strong relationships with other women but may not necessarily explore sexual behaviors. The deepening or commitment phase involves a person exploring her sexual identity and identifying as bisexual, heterosexual, or lesbian. In the internalization or synthesis phase, a person experiences more self-acceptance of her desire or love for women as part of their identity.

Likewise, the group dimension identity development process proposed by McCarn and Fassinger (1996) consists of four phases. In the awareness phase, women become aware of the lesbian community and realize that heterosexuality is not the norm (Table 1). In the exploration phase, they actively seek knowledge about the community and the possibility of belonging to it. In the deepening or commitment phase, they become more aware of the value and oppression of being part of the community. They are obliged to form a personal relationship with it. Finally, in the internalization or synthesis phase, they redefine their identity, internalize it, and synthesize it into their overall self-concept as a member of a minority group.

While exploring sexual identity development, the fluidity of sexuality and gender should be understood. Sexual fluidity refers to the ability of individuals to adapt their sexual response according to the situation, enabling them to experience shifts in their desire for same-sex and other-sex partners, whether in the short or long term (Diamond, 2016). However, gender fluidity refers to the tendency of a person's gender expression to shift throughout their

life (Gosling, 2018). This concept relates to a change or transition in sexual orientation and gender expression, even if it is just temporary, with women having more fluidity than men (Diamond, 2016, 2020).

Diamond (2008) conducted a longitudinal study on women's sexual identities that introduced the concept of sexual fluidity, in which sexual orientation and attractions can be more flexible and change over time. Diamond (2016) posited that sexual fluidity capacities vary considerably between individuals, with some experiencing periodic variations in their patterns of sexual attraction throughout their lives and others exhibiting remarkably stable patterns. Campbell et al. (2021) reported that the incidence of sexual identity change in Australian women was approximately 19%, with one-third altering their sexual identity at least once throughout the 4-year observation period. They also noted that the expectation of conforming to heteronormativity often decreases during emerging adulthood, as young people have more sources to explore during their development process. People whose sexual orientation was toward both sexes or who identified as (pluri)sexual were more fluid than those whose sexual orientation was toward only one sex or who identified as having an exclusive sexual identity (Campbell et al., 2021).

Furthermore, Hiestand and Levitt (2005) proposed seven stages in the butch identity development model. Stage 1 is gender conflict, in which a sense of gender difference dates back as early as

preschool years. Stage 2 is the collision of gender conformity and sexual pressures. At this stage, the pressure to be feminine intensifies as they go through puberty. Stage 3 is gender awareness and distinguishing differences, in which women search for role models in the SGM group. Stage 4 is acceptance of the lesbian identity, leading to gender exploration. Stage 5 is gender internalization and pride in sexual orientation, in which they adopt a butch identity. Stage 6 is gender affirmation and pride. The final stage is the integration of sexual and gender differences.

Identifying the stages of sexual identity development is crucial for guiding psychosocial interventions for SGMMW (Degges-White et al., 2000). However, to the best of the authors' knowledge, no study on sexual identity development has been conducted on SGMMW in Malaysia. Therefore, this study explores this aspect.

METHODS

This study employed a phenomenological approach to explore the essence of identity development of SGMMW in Malaysia (Creswell & Poth, 2018). This approach is the best choice because phenomenology research studies lived experience and describes the common meanings of an individual's experience as a phenomenon (Creswell & Poth, 2018). Phenomenology research focuses on describing the common lived experience of all participants by reducing individual experiences with a phenomenon to a description of the universal essence. An epoché process was

applied to better understand participant experiences by refraining from or bracketing preconceptions, assumptions, and biases. Accordingly, researchers could uncover the underlying essence of phenomena as they are lived and experienced by human consciousness, which led to deeper insights into the nature of reality and human existence (Creswell & Poth, 2018).

The participants were recruited through purposive and snowball sampling with the help of key informants. These key informants assist in identifying and inviting a sensitive and minority group like SGMMW to participate in the study. The key informants mediated the information on the study to the potential participants in their community and conveyed the details of the agreed participants to the researchers. Thirty Malay females between 18 and 60 years who identified as SGMMW (lesbian, bisexual, pansexual, femme, *pengkid*, and andro) were interviewed. Those who could not comprehend Malay or English or were too unstable to be interviewed were excluded.

This study was conducted during the COVID-19 pandemic and the movement control order. Therefore, participants were contacted *via* email, telephone, and WhatsApp. They were informed about the study procedure, including recording the interviews for transcription and analysis. A Google Form was used to obtain informed consent and socio-demographic information from the participants, and a link to the Google Form was sent to each participant.

Each participant was interviewed online via WebEx for 45–90 minutes using a semi-

structured interview guide. The online interview reached participants all over Malaysia without the need to travel, thereby minimizing the cost (Deakin & Wakefield, 2014). This method also added flexibility to the times and places of the interviews. The use of an in-depth interview enabled further probing, as well as a deeper explanation and more details of the participants' experiences (Creswell & Poth, 2018).

Ethical Approval

This study complied with the principles indicated in the Helsinki Declaration and was cleared by the Universiti Sains Malaysia Ethics Committee (USM/JEPeM/20070361).

Data Management and Analysis

All verbatim recordings underwent repeated listening to accurately capture the narratives. Subsequently, ATLAS.ti 8 software was used to analyze all transcriptions, which were repeatedly read line by line for deductive and inductive coding. Deductive coding was performed by developing predetermined codes based on the literature review and research questions. In addition, inductive coding was conducted by creating additional codes throughout the analytical process. Subsequently, the codes were categorized into themes. Meanwhile, the data were translated from Malay into English.

Trustworthiness

This study's confirmability, credibility, transferability, and dependability were ensured to establish its trustworthiness

(Lincoln & Guba, 1985). Confirmability was ensured through a reflexive journal and audit trail. All interview sessions were recorded, transcribed, and analyzed cautiously, one by one, to preserve credibility. Purposive sampling and using the key informants ensured the transferability of this study (Palinkas et al., 2015). Participant information, reflective journal, and audit trail of data collection were preserved, and continuous discussion among researchers was conducted to confirm dependability (Creswell & Poth, 2018).

RESULTS

Thirty SGMMW with a mean age of 36.8 (SD of 7.33) participated. Most participants were from Selangor ($n = 12$, 40%) and Kuala Lumpur ($n = 6$, 20%). Almost all participants received tertiary education ($n = 22$, 73%). Most participants were single ($n = 24$, 80%) and identified as *pengkid* ($n = 17$, 17%; Table 2).

The study emerged with three themes: awareness of incongruence, exploration of self-identity, and consolidation in the L Community.

Awareness of Incongruence

Awareness of incongruence refers to the process by which and when participants realize their attraction toward same-sex or preference to be male rather than female. As early as age 5 to early adolescence, participants were aware of their sexual attraction toward females. They realized they had special feelings for girls and were not interested in boys. An andro femme

stated, “During standard 4, I realized that I was attracted to a girl,” (L22, andro femme).

At that point, almost all participants were confused, unsure, and unable to accept their feelings. One participant reported, “Why is it that I don’t even feel wow when I talk about men? From there I started asking about myself. Why? Do I have a problem with myself?” (L20, *pengkid*).

Many participants shared their early life crises that predisposed them to sexual identity development and awareness. Some claimed that their parents’ expectations and preference for a son rather than a daughter developed in them the perception that it is better to be a man than a woman: “Father always prefers male [my brothers]. It’s like everything, the brothers are the right one. Until maybe [I] feel like rebelling,” (L21, *pengkid*).

In addition, other participants revealed their experiences of observing and imitating male figures in the family, slowly imprinting masculine traits on them. For example, performing numerous “tough” activities with their fathers encouraged daughters to model them and express themselves as men: “Probably because the relationship with father was close. So, I behave more masculinely. He took me fishing... taught me a lot about how to make a kite... about wiring,” (L16, *pengkid*).

In contrast, the absence of a father figure constructed a negative perception of men because they noticed that men did not fulfill their roles as leaders or protectors of the family. Consequently, participants took the place of a father figure and the family’s

Table 2
 Characteristics of sexual-and-gender minority among Malay women (SGMMW; n = 30)

Participants	Age (year)	Education	Marital status	Self-identify
L01	45	Tertiary	Single	Lessy
L02	40	Tertiary	Single	Pengkid
L03	39	Tertiary	Single	Pengkid
L04	42	Secondary	Single	Lessy
L05	42	Tertiary	Single	Pengkid
L06	34	Tertiary	Married	Pengkid
L07	41	Secondary	Single	Pengkid
L08	39	Tertiary	Single	Andro
L09	38	Secondary	Single	Pengkid
L10	38	Secondary	Single	Lessy
L11	38	Tertiary	Divorced	Lessy
L12	43	Tertiary	Single	Pengkid
L13	23	Secondary	Divorced	Lessy
L14	36	Tertiary	Single	Andro
L15	26	Secondary	Single	Pengkid
L16	45	Tertiary	Single	Pengkid
L17	47	Tertiary	Married	Pengkid
L18	40	Tertiary	Married	Andro
L19	33	Tertiary	Single	Pengkid
L20	34	Secondary	Single	Pengkid
L21	35	Tertiary	Single	Pengkid
L22	34	Tertiary	Single	Andro
L23	56	Secondary	Single	Pengkid
L24	28	Tertiary	Single	Pengkid
L25	25	Tertiary	Single	Andro
L26	25	Tertiary	Single	Lessy
L27	39	Tertiary	Single	Pengkid
L28	30	Tertiary	Divorced	Lessy
L29	39	Tertiary	Single	Lessy
L30	30	Tertiary	Single	Pengkid

Source: Authors' work

breadwinner: “I work hard. I will give the money to my mom [to replace father role],” (L09, *pengkid*).

Furthermore, observing family members practicing same-sex sexual relationships pulled the participants into the same behavior:

“My older sister is also a *pengkid*. I witnessed her transformation from A to Z since I was small. The way she treated her girlfriend made me think that it is ok if I do not have a man. There is someone who can treat me like that,” (L13, bisexual)

The affirmation of family members further strengthened the development of sexual identity: “My sister was angry with my ex-husband for beating me. My mother asked why I was with a man if there was no responsibility. It is preferable to remain with the current *pengkid*,” (L13, bisexual).

In addition to family influence, peers contributed to the development of sexual identity. Participants imprinted masculine characteristics by mingling with boys from early childhood, playing with boys’ toys, and engaging in rough physical activities such as fishing, riding bicycles, climbing trees, and playing shooting games. Once they entered kindergarten and primary school, they met and mixed with more friends. L21 stated, “Before school, I played a lot with boys. Because there are many friends who are close to home, there are also mixed up, but there are many males. With my brother, I play a lot with boy toys,” (L21, *pengkid*).

Some participants mentioned that their traumatic experiences, such as being victims and witnesses of abuse by men, whether physical, mental, or sexual, caused them to despise and disrespect men. Later, they did not have a sexual desire for men but rather developed a sexual desire for women. For example, L09 shared that her father was abusive to her mother and siblings. Her uncle, who was a drug addict, also forced her to have oral sex when she was in kindergarten. In addition, her older brother peeped while she bathed and sexually abused her two younger sisters: “From childhood until now, I did not like my older brother ...[he] was irresponsible. I felt

vengeful toward him till the day he died,” (L09, *pengkid*).

Moreover, Islamic teaching in the family contributed to the development of sexual identity. Some participants did not think it was important to follow Islamic teachings because they did not see good examples of them from their parents. L14 said, “My own mother did not pray. My mother did not even tell me to pray,” (L14, andro).

Nonetheless, even some parents who properly practiced Islam did not instill in participants the importance of Islamic teaching. Therefore, some participants poorly practiced the teachings: “My parents did not put much emphasis on religion. They gave freedom to their children,” (L04, *lessy*).

However, nearly all participants who diligently followed Islam’s requirements at home did not practice religion as they used to once. They were no longer under their parents’ supervision: “When I left home, I started not praying. Even in secondary school, sometimes, when I was asked to pray, I went for ablution and went into the room without praying. I knew it was obligatory, but I made fun of it,” (L07, *pengkid*).

Most participants were aware of Islamic laws prohibiting same-sex sexual behavior (SSB). However, they disregarded these rules because of their apathy toward Islam: “I know this thing is wrong. But the feeling of knowing is not strong; it is kind of vague, and it is unclear what the law is. So, I just ignore it,” (L18, andro).

Exploring Self-identity

Exploring self-identity is the stage at which participants search for their identities. They were curious about their identities and wanted to try new things, usually when they started secondary school. Their peers easily influenced them throughout their adolescence. For example, they were more comfortable interacting with women who expressed masculine characteristics or were tomboys. In addition, they participated in sports and rough physical activities. They had the opportunity to explore more during this period.

Meanwhile, participants mentioned that their female peers and partners, who understood, supported, and loved them, were pulling them into same-sex relationships. These female peers and partners fulfilled their longing for love that they did not receive from their family, especially their mother, and gave them happiness and appreciation. L16 stated, “She also treated me well. None of the people that I knew in my life at that time (treated me like this). I should get all the love from my mom, right?” (L16, *pengkid*).

Outside the house, several participants reported that they had been sexually groomed by their female teachers, seniors, and peers and had their first sexual relationship at secondary school. Once their partners left the school, they would find new partners among the juniors. In schools with several lesbian couples, mostly in all-girl schools, having same-sex partners seems normal. Consequently, they proudly pursued these lifestyles without feeling guilty: “In

secondary school, the most critical time... I liked to dress like a boy, wanted to be a boy, was friends with all the boys, and was interested in girls,” (L02, *pengkid*).

Subsequently, they continued exploring their identities when they entered college or university. Being away from family members, particularly at university, allowed them to explore, discover new things, and engage in same-sex activities without restriction. Some even stayed in the same room or house with their partners: “I met a *pengkid* while I was in the university. It means more exposure to things that I have been looking for. Apparently, there were other people who were the same as me,” (L12, *pengkid*).

Moreover, a few participants studying or traveling outside Malaysia, particularly in countries allowing same-sex marriage, had an extensive opportunity to explore and affirm their identities. They dated local women and publicly expressed themselves in a masculine manner: “I stayed at the university, many international students there. I became part of the guys... smoked cigarettes... smoked pot. I can kiss in public areas. No problem,” (L08, *andro*).

Furthermore, several participants explored lesbianism through pornography, novels, and books about sexuality. L01 said, “I watched light porn. My ex-boyfriend gave me a book about sex scenes. There were many stories about the lesbian scene and all those things. I do not have to worry about pregnancy,” (L01, *lessy*).

Pornography is easily accessible through social media. Accordingly, social media

has become a platform for participants to search for and explore more information and activities related to their identities. Most participants communicated on social media and found their partners there. They also shared their problems and received support from the virtual community, further affirming their sexual identities: “We were chatting in the mIRC. We met in the chat... the *pengkid* group,” (L21, *pengkid*).

Consolidating in L Community

Consolidating identity as L Community refers to how participants engrossed themselves in the minority group, which they identified as “Komuniti L” or L Community. L Community is a lesbian community that includes women with sexual attraction toward women, including bisexuals and pansexuals. They also refer to themselves as “senget” (nonstraight or slanted).

In the L Community, a lesbian who expresses herself in a feminine character identifies as *lessy* or *femme*. A lesbian who expresses herself in masculine characteristics identifies herself as a *pengkid*. In addition, “*abam*” is a term used by lesbians who express themselves as males: “*Abam-abam*, she already thinks that she is completely a real man. Even her mind thinks she is a man. I mean, she is at the same level as a man. I am lesser than that level,” (L15, *pengkid*).

Pengkids behave, walk, and portray themselves as men. They usually have short hair and bind their chests to hide their breasts. Most of them smoke, and some abuse substances. They enjoy tough activities

such as riding, fishing, and climbing. The difference between a *pengkid* and a tomboy is that a tomboy is sexually attracted to men, whereas a *pengkid* is sexually attracted to women. Conversely, transmen take testosterone for a masculinizing effect or undergo top or bottom surgery to change their biological sex, whereas *pengkids* do not. Most *pengkids* prefer *lessy* or *femme*. *Pengkids*’ partners are called “*awek peng*.” However, a few *pengkids* also prefer *pengkids*, called “*gaypeng*” or “*GP*.”

Andro members of the L Community express their gender in feminine and masculine characteristics. There are two types of andro: *femme* and *butch*. Andro *femme* is more feminine, whereas andro *butch* is more masculine or tougher. Moreover, andro *femme* is referred to as soft *butch* and prefers *femme*. Situationally, andro can be dominant or non-dominant in a relationship. For example, P18 explained, “I am not too masculine like a *pengkid* and not very feminine like a *lessy* woman. But my preference is only for women who are *femme* instead of *pengkid*. In English, we call it soft *butch*,” (P18, andro).

Furthermore, a pansexual can play any role in a relationship. For example, she can partner with a *lessy* or a *pengkid*. If she is with a *lessy*, she will play the dominant role, and if with a *pengkid*, the *pengkid* would be the dominant one:

“I’m capable of being everything. If with a *pengkid*, I’ll be more at the bottom, and she’ll be the husband. I become like a wife. If I am with a *lessy*, if I am with a girlfriend, I will

be dominant. She will be my slave,” (L01, pansexual).

A few participants mentioned that their identities have changed throughout their lives. They could change their identities from femme to *pengkid*, from lesbian to bisexual, or from *pengkid* to andro: “I used to couple with *pengkid*. I became a *lessy*. Now I am andro,” (L22, andro).

In addition, participants claimed they could recognize other L Community members, which they named “gaydar.” According to them, “Gaydar, that means we can sense that the person is slanted (*senget*),” (L20, *pengkid*).

Once participants recognized someone with the same sexual identity, they felt comfortable affirming their identities and being in a minority group that shares the same difficulty in contrast to the general majority. They had been accepted into a particular community, appreciated, and understood. In this newfound community, no one judges them or discriminates against them. Alternatively, they share their feelings, gain more information, and receive answers to confusing matters. By receiving support from other members of the L Community, they consolidate into it: “Apparently, there are many more like me. I’m not the only one with this kind of problem,” (L20, *pengkid*).

With affirmation from the L Community, they became part of the community and practiced their lifestyles. They freely practice what they desire in this community and have a companion who can listen to and understand them. A woman is a better companion than a man, as women are

more caring and responsible, especially for bisexuals who had a bad experience with their ex-husbands: “I decided to live like that... we are free... we are away from family. We can do whatever we like,” (L23, *pengkid*).

Most participants decided to “come out” in this phase because they felt comfortable in this community. However, some would “come out” at any phase to whom they were comfortable: “At that time, ignore what others said. We went out together in a big group,” (L21, *pengkid*).

Despite having a few breakups, conflicts, and abuse, the L Community stayed in same-sex relationships for a long time because of love and trust from their partners.

DISCUSSION

This study contributes numerous vital findings to the current body of knowledge. First, SGMMW went through three phases in consolidating their identities (Table 2). Second, a new finding from this study is SGMMW in Malaysia, also referred to as the L Community. Third, the sexual identity development of SGMMW was influenced by environmental, personal, and behavioral factors, as aligned with the SCT concept of socialization (Bussey & Bandura, 1999).

This study identifies three phases of SGMMW identity development: awareness, exploration, and consolidation. In Phase 1 (awareness), SGMMW becomes aware of their feelings toward the female. Hiestand and Levitt (2005) reported that this recognition can begin as early as kindergarten. It starts with admiration

for the individual, such as their female teacher, seniors, or colleagues. Over time, it progresses into same-sex attraction (SSA). Phase 1 is parallel with the first stage of the Sophie (1986) and McCarn and Fassinger (1996) models (Table 3).

In Phase 2 (exploration), SGMMW began to explore, especially when offered more opportunities, primarily through social media or from schools. They began to gather information about their sexual desires and gender identity. They tried to make new friends who could understand and accept them during the process. In addition, they might engage in sexual activities or erotic relationships with women. Sophie's (1986) and McCarn and Fassinger's (1996) models of lesbian identity development describe the same exploration process after the awareness phase.

In Phase 3 (the consolidation phase), SGMMW accepted its new identity, engaged in SSB, and received affirmation from its new minority community. SSA and cross-gender are accepted and validated in this neoculture (Roberts & Christens, 2021). Most have behaviors, values, and feelings consistent with their ideal self-image or egosyntonic.

Phase 3 of this study aligns with the third and fourth stages of the model proposed by Sophie (1986). In addition, Sophie (1986) reported that lesbians might change their sexual orientation at any point and not proceed to identity integration, which is in accordance with the concept of sexual fluidity, in which sexual orientation may fluctuate over time (Diamond, 2016, 2020). In the McCarn and Fassinger (1996) model, Phase 3 or the consolidation phase of the SGMMW identity, is consistent with Phases 3 and 4 of its model, which are deepening or commitment and internalization or synthesis. During this phase, they become committed and can accept their identities.

According to McCarn and Fassinger (1996), discovering SSA differs from developing a sense of belonging within the lesbian community. Earlier stages of the process may be associated with anxiety and feeling different from the general majority, leading to confusion, self-disgust, and increased homonegativity (McCarn & Fassinger, 1996). In later stages, individuals may experience a sense of fulfillment and peace.

The novel finding in this study is that SGMMW in Malaysia identified themselves

Table 3
Comparison of SGMMW and lesbian identity development

SGMMW	Sophie (1986)	McCarn & Fassinger (1996)	
		Individual	Group
Phase 1: Awareness	Stage 1: Awareness	Phase 1: Awareness	
Phase 2: Exploration	Stage 2: Testing and exploration	Phase 2: Exploration	
Phase 3: Consolidation	Stage 3: Identity acceptance	Phase 3: Deepening/commitment	
	Stage 4: Identity integration	Phase 4: Internalization/synthesis	

Source: Authors' work

as “Komuniti L” or L Community. This community includes lesbians, bisexuals, pansexuals, *lessy*, *pengkid*, andro butch, andro femme, and transmen. This inclusion contradicts the global definition of transmen, which states that transmen are part of the SGM among men (Salway et al., 2021). A possible explanation is that this community among Malay may still be tied to their biological natal female sex, traditional culture, and Islamic teachings on gender expression. In Islamic rituals, such as performing five daily prayers, one must follow the rule for females despite being transmen (Kambol, 2020). Likewise, customs and family expectations influence gender fluidity in India (Azhar et al., 2022). Owing to stigma and discrimination, they change their gender expression to suit their surroundings. As a natal female sex, gender can change from feminine to androgynous to masculine. Their identities can change throughout their lives, as explained by the concept of sexual and gender fluidity (Diamond, 2020; Gosling, 2018; Scheitle &

Wolf, 2018). In addition, sexual orientation and gender identity expression may vary throughout their lives. This concept relates to a change or transition in sexual orientation and gender expression, even if temporary.

Nevertheless, most members of the L Community “came out” once they had established their identities and were self-assured. However, some individuals may “come out” at any phase, depending on the person to whom they disclose their identities. They could disclose their identities during Phase 1 to their peers, who may understand them, or they might disclose them to someone they trust. This finding is consistent with that of McCarn and Fassinger (1996).

This study identified factors that influenced the identity development of the L Community along the phases of identity development, which can be explained with SCT and simplified in Figure 2. The SCT emphasizes the reciprocal influences between environmental, personal, and behavioral factors in the identity

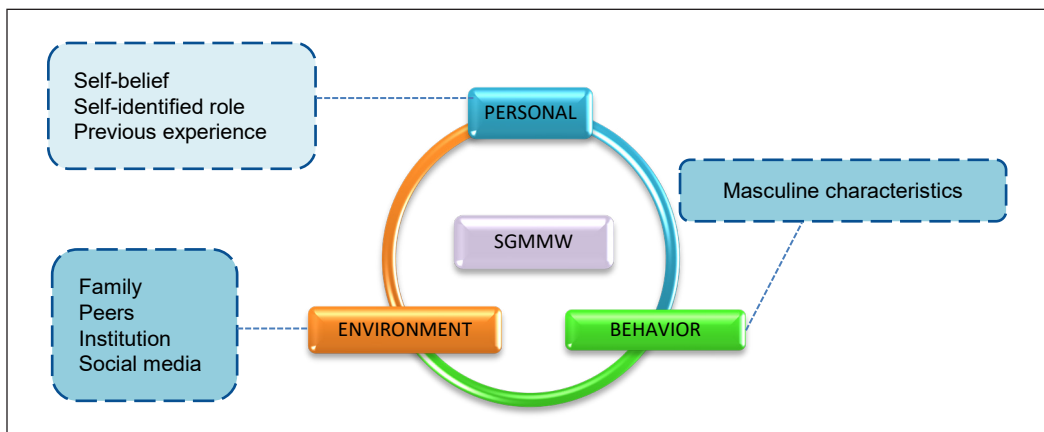


Figure 2. Inclination factors of sexual identity development based on the social cognitive theory
Source: Authors’ work

development of the L Community or SGMMW (Bussey & Bandura, 1999).

At the environmental level, sexual identity development is influenced by family, friends, institutions, and social media (Fajria et al., 2021; Mukhid, 2018; Rushdan & Subhi, 2022). Family environments, including parenting styles such as abusiveness, lack of affection, and ignorance, were identified in other studies (Juaini & Azman, 2021; Upe et al., 2022). When no father figure was present in the family, daughters sought to fill the emotional void by playing masculine roles. They experienced a strong drive to become protectors or providers for their families, which motivated them to adopt masculine characteristics (Craig & Lacroix, 2011). They believed embracing these traits would make them stronger and more secure, perceiving masculinity as a source of strength and safety compared to identifying as women (Hiestand & Levitt, 2005).

Simultaneously, the process of observing and learning from their male family members and peers contributed to the expression of SGMMW in masculine characteristics and the development of SSA. Hiestand and Levitt (2005) and Purnamasari et al. (2019) reported that playing with boys and enjoying games and activities related to boys influenced the expression of male genders among butches. Studies from Indonesia have also agreed upon the role of parents in gender identity development through modeling (Maryam, 2022; Rikhusshuba & Huda, 2020). SSA evolved as they identified themselves as males and learned how to

approach and interact with women from their male acquaintances, as described in Purnamasari et al. (2019) study in Kota Makasar, Indonesia. In addition, once they entered school and met more girls, they became aware of their sexual orientation toward girls. Female friends or peers who provide support, validate emotions and are more understanding inclined Malay women toward lesbianism, as noted by Aziz et al. (2019), Hesamuddin et al. (2019), and Rushdan and Subhi (2022).

Institutions such as schools, especially all-girls or boarding schools, and assimilation with other lesbians reinforced them in finding their identities during the exploration phase. Some members had been approached by those with SSA and were groomed to be part of this group. With continuous exposure, they were inclined to embrace the SGMMW identity. This exposure also occurred at higher educational institutions with more opportunities because they were away from their parents. Aziz et al. (2019), Hesamuddin et al. (2019), and Rushdan and Subhi (2022) reported a similar factor.

In the digital era, Malay women can easily access global social media to obtain information on SSA. With the information they obtained, they explored and found a community that could support and affirm their sexual and gender identities. Chan (2023) and Upe et al. (2022) explained the role of social media in sexual identity development.

In addition to environmental factors, personal factors such as bad experiences

and the absence of parental figures created a new perception and belief in Malay women. Bad experiences, such as a history of sexual molestation, sexual abuse, physical abuse, and mental abuse, led to negative thoughts, such as an intense hatred of men (Juaini & Azman, 2021). These findings are consistent with those of Juaini and Azman (2021) in Malaysia and Purnamasari et al. (2019) in Indonesia.

In terms of behavioral factors, having an abusive father (environmental), being inclined by their mothers' constant suffering, and being looked down upon also encouraged Malay women to behave in masculinity over femininity. By behaving with masculine characteristics, Malay women felt a heightened sense of power and confidence, enabling them to assert themselves and make decisions without fearing confrontation (Craig & Lacroix, 2011). Furthermore, this feeling of protection became crucial when confronting potential discrimination or scrutiny (Levitt & Hiestand, 2004). They believed that women were vulnerable and prone to victimization.

Simultaneously, sexual attraction toward women evolved as they identified themselves as males and learned how to approach and interact with women from their male acquaintances. This process of observing and learning from their male peers contributed to the development of their sexual attraction toward women. This finding is consistent with the findings of a previous study on butch identity development (Hiestand & Levitt, 2005), which reported that playing with boys

and enjoying games and activities related to boys influence the expression of male genders among butch in northern Florida. Subsequently, once they entered school and met more girls, they became aware of their sexual orientation toward girls.

In summary, the reciprocal interaction of environmental, personal, and behavioral factors in the SCT theory could explain not only the sexual but also the gender identity development of SGMMW (Bussey & Bandura, 1999).

CONCLUSION

The novelty of this study lies in its finding of the L Community as part of SGM among women in Malaysia. The uniqueness of this L Community is that it includes transmen, which contradicts the global concept that transmen are part of SGM among men rather than women. In addition, this study provides a deeper understanding of the identity development process within the L Community or SGMMW in Malaysia. Although previous studies on lesbian identity development have proposed four stages or phases for sexual identity development, this study proposes three phases: (1) awareness, (2) exploration, and (3) consolidation. During Phase 1, SGMMW was aware of their sexual orientation toward females. In Phase 2, they explored information about SSA, the community that accepted their identities, and partners that shared the same orientation. In Phase 3, they consolidated their identities in the SGMMW group, which affirmed them. The development process is flexible rather than

strictly linear, aligning with the fluidity of sexual and gender identities. Based on SCT, this study concludes that the development process of SGMMW's sexual identity was reciprocally influenced by environmental factors, such as family, friends, institutions, and social media; personal factors, such as a history of bad experiences with men and hatred toward men; and behavioral factors, such as behaving like a man to hide the weakness of a woman.

Implications of the Study

The contribution of the knowledge from this study can be explained in terms of theory and practical implications. In terms of the implications of the theory, SCT explained the identity development of SGMMW, indicating that it can be applied to other studies aiming to explore the identity development of other groups of people, which can be SGM among Malay men or non-Malay community or non-Malaysian. The findings of the three phases involved in the sexual identity development of SGMMW outline the sequential stages of self-discovery, exploration, and acceptance of one's sexual and gender identity. These phases align with established identity development models within the SGM and can be applied to better understand their identity development process.

Regarding practical implications, understanding the phases and inclination factors in developing SGMMW identity is vital in aiding the intervention process. In Phase 1, their sexual orientation awareness might cause a confusing state that may lead

to anxiety and depression. Mental health professionals may help them by validating and explaining that sexual orientation is fluid and SSA may be a transient process. They should deviate from SSA by focusing on other things and preventing themselves from engaging in sexual activities. Moreover, service providers should handle anxiety and depression accordingly.

In the exploration phase, SGMMW should focus on the impact of practicing lesbianism and their obligations as Malay and Muslim. They need to be advised correctly rather than being influenced by the advocacy of human rights groups, social media, and those who practice lesbianism as part of their rights. Intervention may be quite difficult during the consolidation phase because SGMMW has already consolidated its identities. However, sexual orientation may change at any time because it is fluid. Consequently, there is still a chance to help them change their sexual orientation or abstain from practicing lesbianism.

Limitations and Recommendations for Future Research

This study has some limitations. With the help of key informants, using purposive and snowball sampling may introduce selection bias. Exploring the process of identity development that occurred a few years ago may introduce recall bias and subjective interpretations of experiences. In addition, online interviews may not provide the same level of rapport as in-person interviews, potentially affecting the depth of participants' responses.

Research on the mental health of SGMMW during their identity development process is necessary to understand their psychological conflicts during the process. Subsequently, research should be conducted on the approach to dealing with SGMMW mental health and the effectiveness of interventions in each phase of the sexual identity development of SGMMW.

ACKNOWLEDGEMENT

The study is funded by a Short-Term Grant, Project No 304/PPSP/6315763, Universiti Sains Malaysia. The authors thank all the participants for their cooperation.

REFERENCES

- Adejuwon, E. A. (2020). Homosexuality: An African Christian ethical perspective. *International Journal of Innovative Social Sciences & Humanities Research*, 8(1), 159-168.
- al-Bukhari, M. (n.d.). Sahih al-Bukhari (No. 5886, Book 77, Hadith 103). *Sunnah.com*. <https://sunnah.com/bukhari:5886>
- Alfian, A. (2022). Buddhism and confucianism on homosexuality: The acceptance and rejection based on the arguments of religious texts. *Al-Adyan: Journal of Religious Studies*, 3(2), 73-82.
- Azhar, S., Vaudrey, J., Gandham, S., Burr, S., Oruganti, G., & Yeldandi, V. (2022). Secret lives and gender fluidity of people living with HIV in Hyderabad, India. *Journal of Community Psychology*, 50(1), 221-237. <https://doi.org/10.1002/jcop.22541>
- Aziz, A. N. A., Rahman, A. R. A., Jaafar, W. M. W., Assim, M. I. S. A., & Assim, M. I. S. A. (2019). Factors leading to interpersonal relationship with pengkid/butch: Femme women role player perspective. *International Journal of Academic Research in Business and Social Sciences*, 9(2), 949-960. <https://doi.org/10.6007/ijarbss/v9-i2/5653>
- Bandura, A. (1986). The explanatory and predictive scope of self-efficacy theory. *Journal of Social and Clinical Psychology*, 4(3), 359-373. <https://doi.org/10.1521/jscp.1986.4.3.359>
- Bandura, A. (2012). On the functional properties of perceived self-efficacy revisited. *Journal of Management*, 38(1), 9-44. <https://doi.org/10.1177/0149206311410606>
- Bayne, H. B., Harness, L., Kane, B., & Warfield, M. (2021). Christian counselors and affirmative counseling of lesbian and gay clients. *Journal of Counseling and Development*, 99(1), 60-71. <https://doi.org/10.1002/jcad.12354>
- Bussey, K., & Bandura, A. (1999). Social cognitive theory of gender development and differentiation. *Psychological Review*, 106(4), 676-713. <https://doi.org/10.1037/0033-295X.106.4.676>
- Campbell, A., Perales, F., & Baxter, J. (2021). Changes in sexual identity labels in a contemporary cohort of emerging adult women: Patterns, prevalence and a typology. *Journal of Sex Research*, 58(5), 612-624. <https://doi.org/10.1080/00224499.2020.1814092>
- Chan, R. C. H. (2023). Benefits and risks of LGBT social media use for sexual and gender minority individuals: An investigation of psychosocial mechanisms of LGBT social media use and well-being. *Computers in Human Behavior*, 139, Article 107531. <https://doi.org/10.1016/j.chb.2022.107531>
- Craig, T., & Lacroix, J. (2011). Tomboy as protective identity. *Journal of Lesbian Studies*, 15(4), 450-465. <https://doi.org/10.1080/10894160.2011.532030>
- Creswell, J. W., & Poth, C. N. (2018). *Qualitative inquiry & research design: Choosing among five approaches* (4th ed.). SAGE Publications, Inc.

- Deakin, H., & Wakefield, K. (2014). Skype interviewing: Reflections of two PhD researchers. *Qualitative Research, 14*(5), 603-616. <https://doi.org/10.1177/1468794113488126>
- Degges-White, S. E., & Myers, J. E. (2005). The adolescent lesbian identity formation model: Implications for counseling. *The Journal of Humanistic Counseling, Education and Development, 44*(2), 185-197. <https://doi.org/10.1002/j.2164-490x.2005.tb00030.x>
- Degges-White, S., Rice, B., & Myers, J. E. (2000). Revisiting Cass' theory of sexual identity formation: A study of lesbian development. *Journal of Mental Health Counseling, 22*(4), 318-333.
- Diamond, L. M. (2008). Female bisexuality from adolescence to adulthood: Results from a 10-year longitudinal study. *Developmental Psychology, 44*(1), 5-14. <https://doi.org/10.1037/0012-1649.44.1.5>
- Diamond, L. M. (2016). Sexual fluidity in male and females. *Current Sexual Health Reports, 8*(4), 249-256. <https://doi.org/10.1007/s11930-016-0092-z>
- Diamond, L. M. (2020). Gender fluidity and nonbinary gender identities among children and adolescents. *Child Development Perspectives, 14*(2), 110-115. <https://doi.org/10.1111/cdep.12366>
- Fajria, L., Irawati, N., Malini, H., Mudjiran, & Refnandes, R. (2021). Adolescents' risk of different sexual orientation tendency in terms of family factors (Case study in Padang and Agam regency). *Open Access Macedonian Journal of Medical Sciences, 9*(E), 324-327. <https://doi.org/10.3889/oamjms.2021.6061>
- Federal Constitution* (15th ed.). (2010). The Commissioner of Law Revision, Malaysia. <https://www.sprm.gov.my/admin/files/sprm/assets/pdf/penguatkuasaan/perlembagaan-persekutuan-bi.pdf>
- Gosling, J. (2018). Gender fluidity reflected in contemporary society. *Jung Journal: Culture and Psyche, 12*(3), 75-79. <https://doi.org/10.1080/19342039.2018.1479080>
- Hermawati, Ananda, A., Rusdinal, & Barlian, E. (2020). Gender education in the family: From Islamic perspective. In *Advances in social science, education and humanities research* (Vol. 504 Proceedings of the 2nd International Conference Innovation in Education [ICoIE 2020]); pp. 117-120). Atlantis Press. <https://doi.org/10.2991/assehr.k.201209.203>
- Hesamuddin, D. M., Harris, M. A. D. A., Mohammad Din, M. M., & Mohd Nor, N. (2019). The rising of the LGBT in Malaysia. *E-Journal of Media & Society, 2*(2), 118-130.
- Hiestand, K. R., & Levitt, H. M. (2005). Butch identity development: The formation of an authentic gender. *Feminism & Psychology, 15*(1), 61-85. <https://doi.org/10.1177/0959353505049709>
- Hta, M. K. Z., Tam, C. L., Au, S. Y., Yeoh, G., Tan, M. M., Lee, Z. Y., & Yong, V. V. (2021). Barriers and facilitators to professional mental health help-seeking behavior: Perspective of Malaysian LGBT individuals. *Journal of LGBTQ Issues in Counselling, 15*(1), 38-58. <https://doi.org/10.1080/15538605.2021.1868373>
- Ibrahim, N., Aen, M., Amit, N., Said, Z., & Siau, C. S. (2022). Victimization, depression and suicidal ideation among lesbian, gay and bisexual adults in Malaysia. *Malaysian Journal of Medical Sciences, 29*(4), 120-130. <https://doi.org/10.21315/mjms2022.29.4.11>
- Jaapar, S. Z. S., Muhamad, R., Razak, A. A., & Bakar, M. (2023). Construction of sexual and gender minority identity among Malay-Muslim natal females: A meta-synthesis. *IJUM Medical Journal Malaysia, 22*(3), 3-14. <https://doi.org/10.31436/imjm.v22i3.2169>
- Jamal, S. H., Amat, S., & Subhi, N. (2019). Kecenderungan cubaan membunuh diri dalam

- kalangan klien gay dan lesbian di Malaysia [Suicide attempts among gay and lesbian clients in Malaysia]. *Jurnal Pendidikan Malaysia*, 44(1), 151-162. <https://doi.org/10.17576/jpen-2019-44.01si-12>
- Jamal, S. H., Amat, S., Subhi, N., & Mohamed, M. F. (2018). Obstacles and challenges in counselling gays and lesbians in Malaysia. *International Journal of Academic Research in Business and Social Sciences*, 8(6), 953-964. <https://doi.org/10.6007/IJARBSS/v8-i6/4293>
- Jerome, C., Ting, S.-H., Podin, Y., & Ahmad, S. S. W. (2021). Public receptivity towards LGBT in recent times Malaysia: LGBT perspectives. *International Journal of Academic Research in Business and Social Sciences*, 11(14), 371-383. <https://doi.org/10.6007/ijarbss/v11-i14/8943>
- Juaini, N. J. M., & Azman, A. (2021). Pull factors motivating lesbians to become involved in same-sex activity. *International Journal of Academic Research in Business and Social Sciences*, 11(11), 17-30. <https://doi.org/10.6007/ijarbss/v11-i11/10589>
- Juaini, N. J. M., Halim, M. S. A., Mohamad, L. Z., Riza, N., & Chik, A. (2017). Social media and lesbians in Malaysia. *International Journal of Academic Research in Business and Social Sciences*, 7(11), 1005-1014. <https://doi.org/10.6007/ijarbss/v7-i11/3539>
- Juhari, J. A., Gill, J. S., & Francis, B. (2022). Coping strategies and mental disorders among the LGBT+ community in Malaysia. *Healthcare*, 10(10), Article 1885. <https://doi.org/10.3390/healthcare10101885>
- Kadir, M. N. A., Yusof, M. I. M., Ibrahim, M., Ishak, H., & Usman, A. H. (2020). Malaysian Muslim gay and lesbian community's perspective of the concept of marriage and domestic partnership in the Quran. *Journal of Critical Reviews*, 7(10), 2370-2735.
- Kambol, R. (2020). Kesalahan lelaki berpakaian wanita atau menyerupai wanita (tasyabbuh): Isu dan cadangan penyelesaian [The offence of man dressing as a woman or resembling a woman (tasyabbuh): Issues and proposed solutions]. *Journal of Law and Governance*, 3(1), 113-126.
- Kaur, C., & Kaur, A. (2022). Malaysian Sikh youths' perception of diverse sexual identities. *Millennial Asia*, 13(1), 83-107. <https://doi.org/10.1177/0976399620956289>
- Levitt, H. M., & Hiestand, K. R. (2004). A quest for authenticity: Contemporary butch gender. *Sex Roles*, 50(9-10), 605-621. <https://doi.org/10.1023/B:SERS.0000027565.59109.80>
- Lincoln, Y., & Guba, E. (1985). *Naturalistic inquiry*. SAGE.
- Mahon, C. P., Lombard-Vance, R., Kiernan, G., Pachankis, J. E., & Gallagher, P. (2021). Social anxiety among sexual minority individuals: A systematic review. *Psychology and Sexuality*, 13(4), 818-862. <https://doi.org/10.1080/19419899.2021.1936140>
- Maryam, S. (2022). *Peran orang tua dalam pembentukan identitas gender anak di Dusun Sei Sitorus, Desa Sei Jawi Jawi Kecamatan Panai Hulu Kabupaten Labuhan Batu* [The role of parents in the formation of children's gender identity in Sei Sitorus Village, Sei Jawi Jawi Village, Panai Hulu District, Labuhan Batu Regency][Master's thesis, Universitas Islam Negeri Sumatera Utara Medan]. <http://repository.uinsu.ac.id/id/eprint/15516>
- McCarn, S. R., & Fassinger, R. E. (1996). Revisioning sexual minority identity formation: A new model of lesbian identity and its implications for counseling and research. *The Counseling Psychologist*, 24(3), 508-534. <https://doi.org/10.1177/0011000096243011>
- Mokhtar, R. H., & Yapp, E. (2021, January 28). *Religious perspectives in strengthening family*

- values. New Straits Times Press. <https://www.nst.com.my/opinion/columnists/2021/01/661225/religious-perspectives-strengthening-family-values>
- Mukhid, A. (2018). Kajian teoritis tentang perilaku lesbian, gay, biseksual, transgender (LGBT) dalam perspektif psikologis dan teologis [A theoretical study on lesbian, gay, bisexual, transgender (LGBT) behavior in a psychological and theological perspective]. *Sophist: Jurnal Sosial Politik, Kajian Islam aan Tafsir*, 1(1), 53-75. <https://doi.org/10.20414/sophist.v1i1.756>
- Palinkas, L. A., Horwitz, S. M., Green, C. A., Wisdom, J. P., Duan, N., & Hoagwood, K. (2015). Purposeful sampling for qualitative data collection and analysis in mixed method implementation research. *Administration and Policy in Mental Health and Mental Health Services Research*, 42(5), 533-544. <https://doi.org/10.1007/s10488-013-0528-y>
- Purnamasari, Haeruddin, & Multazam, A. (2019). Hubungan seksual pada komunitas lesbian di Kota Makassar [Sexual relations in the lesbian community in Makassar City]. *Journal Health Community Empowerment*, 2(1), 48-64.
- Rikhusshuba, N., & Huda, M. (2020). Parental influence on children's gender identity development in Laurie Frankel's this is how it always is. *LiNGUA*, 15(2), 215-226. <https://doi.org/10.18860/ling.v15i2.10628>
- Roberts, L. M., & Christens, B. D. (2021). Pathways to well-being among LGBT adults: Sociopolitical involvement, family support, outness, and community connectedness with race/ethnicity as a moderator. *American Journal of Community Psychology*, 67(3-4), 405-418. <https://doi.org/10.1002/ajcp.12482>
- Rushdan, W. N. B., & Subhi, N. (2022). Meneroka gaya hidup dan gaya keibubapaan terhadap normalisasi keterlibatan individu dalam gejala LGBT dalam kalangan mahasiswa [Exploring lifestyle and parenting styles against the normalization of individual involvement in LGBT phenomenon among university students]. *Jurnal Wacana Sarjana*, 6(June), 1-15.
- Salway, T., Juwono, S., Klassen, B., Ferlatte, O., Ablona, A., Pruden, H., Morgan, J., Kwag, M., Card, K., Knight, R., & Lachowsky, N. J. (2021). Experiences with sexual orientation and gender identity conversion therapy practices among sexual minority men in Canada, 2019-2020. *PLoS ONE*, 16(6), Article e0252539. <https://doi.org/10.1371/journal.pone.0252539>
- Scheitle, C. P., & Wolf, J. K. (2018). Religion and sexual identity fluidity in a national three-wave panel of U.S. adults. *Archives of Sexual Behavior*, 47(4), 1085-1094. <https://doi.org/10.1007/s10508-017-0979-4>
- Sophie, J. (1986). A critical examination of stage theories of lesbian identity development. *Journal of Homosexuality*, 12(2), 39-51. https://doi.org/10.1300/J082v12n02_03
- The Qur'an (M. Khattab, Trans.). (n.d.). *Quran.com*. <https://quran.com/en/al-isra/32>
- Upe, A., Kasim, S. S., & Hariati. (2022). The social construction of lesbian community in Kendari City, Indonesia. *International Journal of Qualitative Research*, 2(1), 29-33. <https://doi.org/10.47540/ijqr.v2i1.541>
- Yeo, J. Y., Ting, S. H., & Jerome, C. (2021). "Love for all" versus religious teachings: Attitudes towards LGBT among heterosexual Malaysians. *Asian Journal of Behavioural Sciences*, 3(2), 80-91.

The Cohort Effect on Collective Memory of COVID-19 Among Malaysians: A Repeated Cross-sectional Study

Hasrina Mustafa¹, Izzal Asnira Zolkepli¹, Azizul Halim Yahya² and Athera Abdul Ghauth^{1*}

¹*School of Communication, Universiti Sains Malaysia, 11800 USM Penang, Pulau Pinang, Malaysia*

²*Institute of Continuing Education & Professional Studies, Universiti Teknologi MARA, 40450, Shah Alam, Selangor, Malaysia*

ABSTRACT

The spread of COVID-19 has brought major disruption and mass suffering globally. However, little is known about the impact of the pandemic on the construction of collective memory among Malaysian generational cohorts. Data was collected among 1,526 respondents in September 2020 (during the pandemic phase) and 883 respondents in October 2022 (during the endemic phase) using repeated cross-sectional quantitative surveys. Specifically, the studies were set to address two issues. First, to investigate the impact of the pandemic on Malaysians' collective memory and second, to determine whether the development of collective memory was connected to a critical period of adolescence. We specifically requested that Malaysians report "the historical events in Malaysia or in the world" that they felt were particularly significant and explained their answers. The data showed that COVID-19 was the most commonly reported event, as expected. Using logistic regression, we found that age was the strongest predictor of the highest-mentioned historical event, COVID-19. Although more than two years have elapsed since the pandemic, COVID-19 has significant cohort effects on collective memory, with the older generation registering lower recall relative to the younger generation, supporting the Critical Years Hypothesis.

ARTICLE INFO

Article history:

Received: 14 December 2023

Accepted: 24 July 2024

Published: 16 December 2024

DOI: <https://doi.org/10.47836/pjssh.32.4.05>

E-mail addresses:

hasrina@usm.my (Hasrina Mustafa)

izzalasnira@usm.my (Izzal Asnira Zolkepli)

azizul928@uitm.edu.my (Azizul Halim Yahya)

atheraghauth@student.usm.my (Athera Abdul Ghauth)

* Corresponding author

Keywords: Collective memory, COVID-19, critical years hypothesis, generational cohort

INTRODUCTION

The world has been coping with health, societal, and economic consequences for more than four years after the COVID-19 pandemic started in late 2019. Although

reported cases and deaths are declining rapidly worldwide, and most countries around the world have lifted restrictions, the pandemic is far from over (United Nations, 2022).

The collective memory of a major catastrophe, such as COVID-19, has a large group effect. Compared to the older generation, the younger generation had a higher COVID-19 recall rate (Mustafa et al., 2021). Edkins (2003) noted that trauma always occurs and cannot be completely forgotten. Following a catastrophe, the disaster's memory narrative has a significant impact on the formation of personality and the shaping of values (Hutchison, 2016).

This study investigates the COVID-19 impact on Malaysians' collective memory in the post-pandemic era. This research is based on an extensive national survey with two repeated studies conducted in Malaysia from July to September 2020 (during the pandemic phase) and October to December 2022 (during the endemic phase) to determine whether COVID-19 has any influence on Malaysia's various generational cohorts' collective memories. In addition, based on surveys, we critically examine why people describe COVID-19 as the most significant event in their lives, even though more than two years have passed since the virus outbreak.

Collective Memory and Critical Year Hypothesis

A shared memory among a group that shapes their social identity is referred to as collective memory (Cordonnier et al., 2022).

Collective memory is the term for memories that a social group shares, whether cultural, religious, or national (Wertsch & Roediger, 2008). Collective memory, according to Schwartz (2008), "refers to the social distribution of beliefs, feelings, and moral judgments about the past" (p. 76). Collective memory combines a society's official and vernacular memory (Bodnar, 1992).

Durkheim (1912), one of the first philosophers to refer to collective memory, mentioned that for collective cognition to take place, people needed to physically come together to generate an experience that was shared by the group, leading them to define themselves and their beliefs, as well as serve as lessons to define the social values, beliefs, and norms of a community. Halbwachs (1952/1980), one of Durkheim's students, was the first to use the phrase "collective memory" (p. 48), and the author's work is considered to provide the conceptual basis for the investigation of social memory. According to Halbwachs (1925/1992), every collective memory relies on specific groups separated in location and time; the group creates the memory, while the individuals do the remembering process.

The number of empirical and philosophical studies on collective memory has steadily increased (e.g., Hirst et al., 2018; Roediger & Abel, 2015; Wertsch & Roediger, 2008). It is widely understood that factors such as the unique features of an event and its psychological impact influence how memories are formed, whether the event is personal or public (Edkins, 2003; Finkenauer et al., 1998); individual

differences, including the age and culture of the person recalling the event (Koppel et al., 2013; Meeter et al., 2010; Mustafa et al., 2021; Wang, 2009) and the setting in which the incident is recalled (Stone & Jay, 2019). Particularly, the motivations, goals, and circumstances of a group influence the production and recovery of memories of public events witnessed by the group (Abel et al., 2019; Wang, 2021).

Collective memory does not always present a clear and complete picture of past events. The present needs to shape how the past is understood, what is remembered and forgotten, and the morals drawn from past events (Hutton, 1993; Schwartz, 1991). The past provides values in addition to providing identity. While people shape the past, they are also shaped by it.

Schuman and Scott (1989) find generational effects on memory and deciding what past events are important. People tend to remember and prioritize events in their youth as the most memorable. The Critical Years Hypothesis, the fundamental concept underpinning collective memory, supports the statement. The “Critical Years” or formative years or critical period hypothesis was put forward to understand how the generations are developed based on collective recall of specific historical events. A generation is formed when distinct events impact people from the same birth cohort and shape them in diverse ways (Schuman & Corning, 2012).

Karl Mannheim’s (1952) well-known essay, *The Problem of Generations*, stimulated the concept of the Critical Years

Hypothesis. Critical Years Hypothesis or the coming-of-age years, sometimes referred to as the formative years, are the stage of human development from late adolescence to young adulthood (Meredith & Schewe, 1994; Ryder, 1965). The formative years are characterized in previous research as beginning as early as 15 or 16 and ending between the ages of 24 and 27 (Becton et al., 2014; Holbrook & Schindler, 1994; Noble & Schewe, 2003; Schuman & Rieger, 1992). Schuman and Rieger (1992) generally classified the formative years as 13–25 years, but Mannheim recommended a key age span of 17–25 years.

Adolescence is the critical year when individuals become aware of historical and societal events. Historical events that occur during formative years are widely assumed to be vividly remembered, notwithstanding some variation in the lower and upper age limits of the formative years, because this is the time when a person’s unique personal features and personality emerge and develop (Mustafa et al., 2021).

According to Yasseri (2022), collective memory is influenced by a complex interplay of individual experiences, social interactions, media portrayal, and broader sociocultural factors. The ongoing nature of the COVID-19 pandemic and the passage of time is believed to continue to shape and reshape collective memory. Furthermore, according to Hirst et al. (2018), collective memory and the understanding of historical events are shaped by social and cultural factors, including shared narratives, societal values, and the perspectives of different

social groups. Thus, a memory of a person and interpretation of a particular historical event would be influenced by their cognitive involvement in the same generational cohort's social group.

The COVID-19 catastrophe and its wide-ranging effects on various aspects of life would contribute to a higher likelihood of collective memory across different age groups. The extensive media coverage, public health measures, and societal changes associated with the pandemic may make it a memorable and salient event for many individuals. Each time the media highlight the pandemic tale on traditional and internet channels, the pandemic's impact will be felt in creating a collective global memory (Erll, 2020).

It is worth noting here that the Critical Years Hypothesis has received empirical support from various fields, including psychology, neuroscience, and early childhood education (see Budiawan, 2017; Constantin, 2013; Lee & Chan, 2018; Schuman & Corning, 2012, 2017; Schuman & Scott, 1989; Scott & Zac, 1993). In Malaysia, there is limited empirical evidence of generational collective memory. The elder generation recorded most evidence of collective memory, which involved significant historical events such as the Japanese occupation (Blackburn, 2009; Tay, 2015; Ting et al., 2017). Therefore, it is important that this study explore how COVID-19 affected Malaysians' collective memory as well as how critical years affected people's ability to recall the pandemic.

Collective Memory in Past Cross-sectional Research

Cross-sectional studies are often employed in research on collective memory to examine how different groups remember past events. These studies typically involve comparing the memories of various cohorts or demographic groups. For example, Constantin (2013) conducted a cross-sectional study in Beijing and discovered a "memory impulse" (p. 5) that structures both autobiographical and collective memory of historical events across different age groups. Similarly, using cross-sectional analysis, Cupi (2024) found that the media is crucial in constructing social constructs related to the collective memory of events before the 1990s. In another study, Bikmen (2023) conducted three cross-sectional surveys in the United States to test the effect of past pandemics on collective memories and future pandemic preparedness. Results recorded greater interest in learning about historical pandemics but not greater knowledge of events. However, greater knowledge of the pandemic contributed to higher future pandemic preparedness. The study further suggests that past pandemics can potentially become global memories but not global human identities.

COVID-19 and Other Historical Events from 2020-2022

The outbreak of COVID-19 has been ongoing for more than four years, causing a significant impact on people across the world. According to the World Health Organization (WHO; 2024), there are

approximately 775,522,404 confirmed COVID-19 cumulative cases worldwide, with 7,049,617 reported cumulative deaths, making it one of the most extensive pandemic histories (Dong et al., 2020). Doses of 5.47 billion vaccines have been given (WHO, 2023).

COVID-19 was first discovered in Wuhan. In March 2020, infections were discovered in practically every country, and the World Health Organization (WHO) declared the outbreak of a global pandemic on March 11, 2020 (WHO, 2020). After the Spanish Flu in 1918, COVID-19 was the greatest and deadliest pandemic; more than 50 million people worldwide were killed (Douglas et al., 2019).

In Malaysia, three waves of the pandemic outbreak hit the population aggressively. Three imported cases of COVID-19 were discovered in Malaysia on January 25, 2020. Based on each case's travel history, imported cases are infections contracted outside of Malaysia. The three cases were detected after tracing and screening after the Singapore Ministry of Health reported that eight close contacts of a confirmed case of a Chinese person in Singapore had entered Johor (Ministry of Health Malaysia, 2020). The first waves took place between January 25 and February 16, 2020. Beginning on February 27, 2020, and ending on September 30, 2020, was the second wave of the pandemic. On February 27, new cases started appearing as people who had been to China, Japan, Italy, and Australia started showing symptoms. From September 8, 2020, to March 20, 2021, a state's election

campaigns and lobbying operations were mostly responsible for the third wave of the outbreak's sharp rise in cases. On October 8, 2020, there were 14,368 confirmed cases overall at the commencement of the third wave. By December 3, 69,095 cases were up 381% in just two months (Outbreak.my, 2020).

The Malaysian government implemented the Movement Control Order (MCO) on March 18, 2020. This order eventually led to the complete closure of educational institutions, government agencies, and corporate properties, the prohibition of any mass assembly for religious, social, or cultural purposes, and all domestic and international travel. Following a slow drop in Malaysia's confirmed cases, the partial lockdown was prolonged numerous times with growing relaxation of the restrictions.

The pandemic was steadily under control entering the year 2022. The removal of COVID-19 restrictions happened in stages. For example, travelers do not require a pre-departure or on-arrival COVID-19 test. They can enter Malaysia without COVID-19 vaccination status, masks in outdoor and indoor public places, reduced quarantine period for positive cases, and RTK or PCR COVID-19 tests become optional.

COVID-19 clearly dominated 2020-2022. Changing economic, cultural, and societal structures shocked the world. Other than COVID-19, bracketing the two years between early 2020 and the end of 2022 were other global historical events. In February 2022, the world was shocked to hear about Russia's military invasion of

Ukraine. The war between the two countries, compounded with the post-COVID-19 impact, has caused major food and energy crises worldwide. With Ukraine being the major producer of wheat and Russia the major exporter of crude oil, the war has caused a global shortage of the two main commodities, leading to global price hikes.

On home soil, several major political turmoil struck Malaysia during the two years. Amid the COVID-19 crisis, which led to a national emergency declaration, Malaysia faced serious political unrest, leading to the collapse of two coalition governments, the resignation of three prime ministers and the appointment of two new prime ministers. The ongoing political crisis since 2020 has led to a snap general election in November 2022, which again resulted in another political crisis, a hung parliament, due to the failure of one coalition party to achieve a simple majority. The political crisis ended with the formation of a unity government involving a newly established coalition of 19 political parties.

METHODOLOGY

Research Design

We used repeated cross-sectional (RCS) surveys carried out in September 2020 and October 2022 to examine the extent of recall memory of historical events among the Malaysian population. RCS design is a research methodology where data is collected from multiple cross-sectional samples at different points in time (Lebo & Weber, 2014). RCS can capture temporal changes efficiently, cost-effectively, and

with low attrition bias while retaining generalizability and statistical power. This approach is commonly used in social sciences, public health, and other fields to study population changes over time.

Overall, we have two main sources of evidence collected from two points in time. First, we reanalyzed 2020 data originally reported by Mustafa et al. (2021). Second, we report new data collected in 2022 to assess changes in collective memory during the COVID-19 pandemic in early 2020 and the endemic phase of COVID-19 in 2022.

Targeted respondents from five regions of Malaysia were given a set of questionnaires at both time points using online platforms. A link was developed and distributed to enumerators, mostly university students from the country's five regions. In the early stages of the pandemic, the first survey was carried out between September and October 2020, while a repeat survey was carried out during the endemic phase of COVID-19 from September until December 2022.

Population and Sampling Procedure

The total number of respondents needed for both surveys was estimated based on the population of those 18 and older. The Department of Statistics Malaysia estimates that approximately 32.7 million people lived in Malaysia in 2020.

Using Raosoft sample size calculation, it was determined that the minimum sample size required for the study was 385. The sample size was suggested based on a 5% margin of error, a confidence level of 95%,

and a population size of 32 million. There were 1,526 respondents in the first survey and 883 in the repeated survey in 2022. The samples were divided into twelve age groups in both surveys, using categories 18–20 years old, 21–25 years old, 26–30 years old, 31–35 years old, 36–40 years old, 41–45 years old, 46–50 years old, 51–55 years old, 56–60 years old, 61–65 years old, 66–70 years old and 71+ years and above. Like Mustafa et al. (2021), the present study used a five-year interval in the sample distribution to avoid the confirmation bias associated with using a wider age range for each cohort. The first cohort started at 18 to capture young adolescents in their formative years and develop unique generational characters.

The same sampling strategies were used for both surveys. First, eligible respondents were identified using a clustered sampling technique. States were divided according to region, namely North, South, East, West and East Malaysia, to facilitate the sampling process. Given the impracticality of obtaining respondents from every state in Malaysia, the present study intentionally selected five states to serve as representatives for each region. These states include Selangor/Kuala Lumpur for the central region, Penang for the northern region, Johor for the southern region, Terengganu for the east region and Sarawak for East Malaysia. The inclusion procedure required the respondents to live or work in the representative states. Within each representative state, research enumerators were appointed to invite eligible respondents to participate in the study.

The researchers developed the questionnaire for both surveys utilizing SurveyMonkey applications. Enumerators appointed through the SurveyMonkey link distributed the questionnaire, leveraging various social media platforms, including WhatsApp, Facebook, Instagram, and Telegram. Additionally, enumerators conducted face-to-face surveys to enhance accuracy in screening and provide further assistance and clarification, particularly to senior citizens.

Afterward, the purposive sampling method was utilized to gather samples for each age cohort. A non-probability sampling strategy called “purposive sampling,” sometimes known as “judgment sampling,” selects participants based on whether the researcher believes they meet the requirements of the study (Hair et al., 2009).

Research Instrument

Two pilot tests were meticulously carried out during two phases of the pandemic. The first pilot test was conducted in June 2020, involving 50 respondents, while the second was completed in early August 2022, yielding responses from 48 participants. In both pilot tests, thorough reliability analyses were performed, revealing high-reliability values for the variables of the studies. Furthermore, the studies employed expert judgment to assess content validity, ensuring the instrument comprehensively addressed all pertinent facets of the investigated constructs.

In these two surveys, respondents were asked an open-ended question following

methods by Mustafa et al. (2021), Harold and Fong (2017), Scott and Zac (1993), and Schuman and Scott (1989): “Please describe one or two historical events in Malaysia or in the world that you remembered the most (i.e. political, cultural, economic, war, digital development, disease outbreak).”

Respondents need to identify two significant events in their lives, state their age at the time the events occurred, and rate their level of involvement during that period of the event mentioned based on a 5-point Likert scale, where 1 represents “not at all” and 5 represents “immersively involved.”

Data Analysis

The two survey data underwent comprehensive analysis through statistical techniques, primarily descriptive and logistic regression analyses. Leveraging IBM SPSS for Windows version 25.0, descriptive analysis was employed to elucidate the trends across different age groups regarding the collective memory of COVID-19. Additionally, logistic regression was utilized to explore the impact of education, income, and age on significant historical events in Malaysia, offering a nuanced understanding of their interrelationships.

RESULTS

Table 1 shows the demographic background of respondents gathered during two phases of the COVID-19 outbreak: the pandemic (2020) and the endemic (2022). Both data used the same category of age group, education level and income. A research study 2020 involved 1526 respondents,

while in 2022, involving 883 respondents in total. Both surveys were similar, with females making up most respondents. Most respondents have a maximum bachelor’s degree as their education level and an average monthly salary of less than RM 2000.

The most cited national and global events of 2020 and 2022 are listed in Table 2. The presented descriptive analysis was used to show the trend between the age groups. COVID-19 was the most frequently mentioned in 2022, just as in 2020. Since the outbreak began two years ago, remembrance of the COVID-19 pandemic has increased significantly by 28.8%. A slight decrease in the percentage for Malaysia’s Independence Day in 1957 was observed, with 8.4% in the 2020 survey and 7.7% in the 2022 survey. The 2004 Tsunami suffered the greatest drop in the percentage of mentions, from 9.2% (2020) to 1.4 % (2022). A significant drop in mentions between the two surveys was also seen by the 14th Malaysian General Election (2018), with 7.9% in 2020 and 1.6% in 2022, possibly because of the latest Malaysia 15th General Elections held in 2022. Two events were not mentioned in the 2022 survey: (1) the introduction of GST 2015 and (2) P. Ramlee’s music/film in the 1960s.

Table 3 indicates the specific mention of COVID-19 in 2020 and 2022 surveys by age groups. The presented descriptive analysis recorded a positive increase in the recall of COVID-19, especially among the younger groups, those between 18 and 40 years of age. We observed lower recall of COVID-19, especially among the older groups, those from 41 to 70 years old.

Table 1
Respondents demographic background

Variable	Variable items	Responses in 2020		Responses in 2022	
		Frequency	Percent	Frequency	Percent
Gender	Male	659	43.4	297	33.6
	Female	860	56.6	586	66.4
Age-group	18–20	163	10.7	99	11.2
	21–25	203	13.3	101	11.4
	26–30	150	9.8	77	8.7
	31–35	144	9.4	120	13.6
	36–40	114	7.5	60	6.8
	41–45	136	8.9	68	7.7
	46–50	123	8.1	52	5.9
	51–55	115	7.5	43	4.9
	56–60	104	6.8	54	6.1
	61–65	86	5.6	62	7.0
	66–70	105	6.9	79	8.9
	>71+	83	5.4	68	7.7
Education Level	None	35	2.3	11	1.2
	Primary School	116	7.6	54	6.1
	Secondary School	477	31.4	182	20.6
	Diploma	405	26.6	358	40.5
	Bachelor's Degree	374	24.6	229	25.9
	Master's degree	75	4.9	30	3.4
	PhD	19	1.2	3	0.3
	Others	20	1.3	16	1.8
Income	<RM1000	493	42.4	525	59.5
	RM1001–RM2000	300	25.8	94	10.6
	RM2001–RM3000	166	14.3	83	9.4
	RM3001–RM4000	96	8.2	63	7.1
	RM4001–RM5000	46	4.0	48	5.4
	>RM5001	63	5.4	70	7.9

Source: Authors' work

Figure 1 in the graph compares the percentage of COVID-19 mentioned by different age groups between the 2020 and 2022 surveys. In both time points, we observed similar recall patterns of COVID-19, with a downward sloping or downtrend line pattern as the age increases.

As can be seen, COVID-19 mentions were specifically high among young adults between 18 and 35 years, which further provided stronger empirical evidence for the Critical Years Hypothesis. A highly noticeable upward trend was recorded in 2022, with those aged 31–35 recording the

Table 2
National and global events most mentioned in 2020 and 2022

Historical Events	Responses in 2020		Responses in 2022		% Change: 2020 to 2022
	Frequency	Percentage	Frequency	Percentage	
COVID-19	621	40.7	614	69.5	+28.8
The 2004 Tsunami	141	9.2	12	1.4	-7.8
Independence of Malaysia 1957	128	8.4	68	7.7	-0.7
Malaysia 14 th General Election (2018)	120	7.9	14	1.6	-6.3
Introduction of GST 2015	86	5.6	0	0	N/A
May 13, 1969 incident	53	3.5	15	1.7	-1.8
Economic crisis 97/98	33	2.2	16	1.8	-0.4
The collapse of Highland Tower 1993	29	1.9	3	0.3	-1.6
Sporting events (i.e. Thomas Cup)	25	1.6	3	0.3	-1.3
P. Ramlee’s music/film in the 1960s	22	1.4	0	0	N/A

Source: Authors’ work

Table 3
Percentage of mentions of COVID-19

Age group	Responses in 2020		Responses in 2022		% Change: 2020 to 2022 in mentions COVID-19
	Percentage	N	Percentage	N	
18–20	11.1	163	11.5	99	+0.4
21–25	10.9	203	10.8	101	-0.1
26–30	9.0	150	9.6	77	+0.6
31–35	9.2	144	14.0	120	+4.8
36–40	6.6	114	6.8	60	+0.2
41–45	7.9	135	7.7	68	-0.2
46–50	8.0	121	5.6	52	-2.4
51–55	7.1	115	5.1	43	-2.0
56–60	7.4	104	5.2	54	-2.2
61–65	7.9	86	7.6	62	-0.3
66–70	9.2	105	8.7	79	-0.5
>71+	5.8	83	7.5	68	+1.7

Source: Authors’ work

highest recall of the pandemic compared to the same group in 2020.

Subsequently, we observed a consistent downward trend of recall of the pandemic

from those aged 36–60 in both data sets. The downward trend was more noticeable during the first survey in 2020 compared to samples in 2022. Generally, based on the decreasing

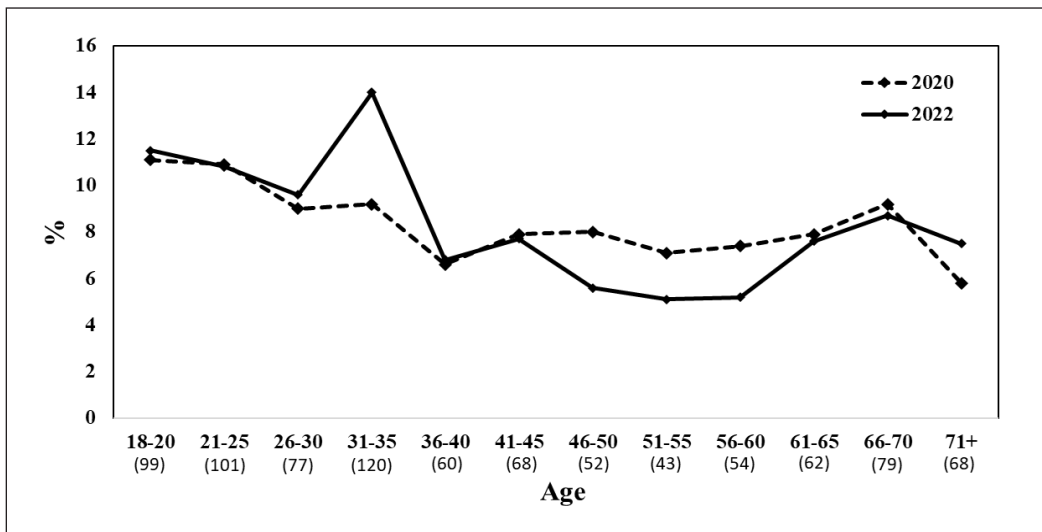


Figure 1. COVID-19 mentions by age
 Source: Authors' work

pattern, it may be safe to conclude that the recall of COVID-19 was noticeably lower in the 36–60 age group, strengthening the argument for the Critical Years Hypothesis. COVID-19 was visibly lower among the middle age group (36–60 years old), which provided stronger support for the Critical Years Hypothesis.

While we expect the trend to be consistently lower for the older group, the opposite trend was observed for those aged 66–70, we observe a slightly higher recall of the pandemic compared to the middle-aged groups observed earlier, which could reflect a much greater concern about the impact of COVID-19 on health among those from the oldest group in the study.

Table 4 shows noticeable differences between the respondents of different age groups in recall of COVID-19. The one-way ANOVA recorded significant differences between age groups on the frequency of

mentions of COVID-19, with an *F*-value of 4.018 and a significance *p*-value of 0.000. Following the significant ANOVA result, the post-hoc analysis (Tukey's HSD test) was conducted to determine the exact differences between each comparison pair. Even though not all pairwise comparisons recorded significant differences, the result indicates that individuals aged 18–20 mentioned COVID-19 as the major historical event in their life significantly more than those aged 46–50, 56–60, and over 71. Conversely, individuals aged 56–60 recalled COVID-19 as significantly less than those aged 18–20, 26–30, and over 71. These results highlight notable differences in the recall of COVID-19 among different age groups. Younger individuals in their formative years tend to mention COVID-19 more frequently compared to older groups. Despite the pandemic's economic, health and social impact on people of all generations, the

Table 4
 One-way ANOVA and Tukey post-hoc test on frequency of mention of COVID-19 by age group

Factor	ANOVA		Post-Hoc Tukey's Test			
	F	P	Age group		Mean Difference (I-J)	Std. Error
Mention of COVID-19	4.018	0.000	I	J		
			18–20	21–25	0.18182*	0.04715
			18–20	46–50	0.19231*	0.05619
			18–20	56–60	0.27778*	0.05554
			21–25	>71	-0.18182*	0.05348
			26–30	56–60	0.21284*	0.05677
			56–60	>71	-0.27778*	0.06100
61–65	56–60	-0.19713*	0.05954			

Note. * $p < 0.05$
 Source: Authors' work

findings provide deeper insights into the differential impact amongst the generations on the recall of the pandemic.

As indicated in Table 5, Logistic Regression was used to determine how education, income, and age impacted Malaysians' recollection of significant historical events. Based on Table 5, the odds ratio is derived through logistic regression, where each factor is treated as a binary dependent variable (either yes or no), and age, income, and education are considered predictors. In both surveys, age best predicts at least four historical occurrences. In both surveys, namely COVID-19, the

Independence of Malaysia in 1957, the 14th General Election (2018) and the sporting event (i.e. Thomas Cup). It indicates that age influences the respondents' collective memory of historical events.

However, we observe a slightly different finding in 2022 with regard to other predictors, namely income and education. In the latest study, income was a strong predictor of recall of COVID-19, the 14th General Election (2018) and the economic crisis 97/98. Additionally, it was discovered that education was the best predictor of recall of the economic crisis 97/98 and the 14th General Election (2018) in 2022.

Table 5
 Logistic regression on the effect of education, income and age on important historical events in Malaysia

	Responses in 2020			Responses in 2022		
	Education Odds ratio (OR)	Age Odds ratio (OR)	Income Odds ratio (OR)	Education Odds ratio (OR)	Age Odds ratio (OR)	Income Odds ratio (OR)
1. COVID-19	...	0.76***	...	0.80*	0.93***	1.0**
2. Tsunami 2004
3. Independence of Malaysia 1957	...	-1.18*	...	...	1.13***	...

Table 5 (continue)

	Responses in 2020			Responses in 2022		
	Education Odds ratio (OR)	Age Odds ratio (OR)	Income Odds ratio (OR)	Education Odds ratio (OR)	Age Odds ratio (OR)	Income Odds ratio (OR)
4. 14 th General Election (2018)	...	1.46*	...	1.35***	...	1.0**
5. Introduction of GST 2015
6. May 13, 1969 incident
7. Economic crisis 97/98	-2.12***	...	...	1.33**	1.08*	1.0**
8. The collapse of Highland Tower 1993
9. Sporting event, i.e., Thomas cup	...	-2.62*	...	...	0.89*	...
10. P. Ramlees' music/film 1960

Note. Based on logistic analysis of each event or change using three predictors: education, income and age. The cell figures are statistically significant odds ratio (coefficient/standard error); * $p < 0.10$; ** $p < 0.05$; *** $p < 0.01$
Source: Authors' work

DISCUSSION

What effect did COVID-19 have on Malaysians' collective memory over two years? To what extent can the collective memory of COVID-19 be attributed to the critical period of adolescence? To answer the first research question, overall, findings in 2020 and 2022 have provided consistent empirical evidence on the impact of COVID-19 on the construction of Malaysians' collective memory. Although two years after the outbreak of the pandemic, with other major historical events occurring during the period, the memory of COVID-19 remains firmly among Malaysian adults. Findings from the first survey conducted during the COVID-19 pandemic (July 2020–September 2020) and the endemic phase (October 2022–December 2022)

highlighted the role of the COVID-19 catastrophe in constructing collective memory among Malaysians.

To answer the second research question on whether the collective memory of COVID-19 can be attributed to the critical period of adolescence, results affirming the Critical Years Hypothesis were also quite consistent in both surveys. In both surveys, COVID-19 mentions are relatively high and sharply demarcated among those in their early 30s. This age group is often referred to as “millennials” and represents a significant portion of the workforce and young families. The COVID-19 pandemic has caused major disruption to their careers and finances. Many millennials have faced job losses, pay cuts, or reduced working hours, leading to financial instability and uncertainty. For millennials with young

children, the pandemic has also created significant challenges. The closure of schools and daycare centers has forced many parents to juggle work and childcare responsibilities, leading to feelings of burnout and exhaustion during the two years. All this contributed to the collective recall of COVID-19.

Mannheim (1952) reiterated that late adolescence and early adulthood are the formative years during which a distinctive personal outlook on events emerges. He further suggested that the years between 17 and 25 are the most crucial formative years defining a generation because this is when distinctive personal traits and personalities emerge. According to Griffin (2004), formative years are particularly significant because “they are associated with the crystallization of both personal identity and knowledge of social realities beyond the self” (p. 545). As indicated in past studies, the age range for the formative year is quite arbitrary. Schuman and Rieger (1992) broadly defined the critical years as 13 to 25 years, while Mannheim (1952) suggested an age range of 17–25 for the critical years. The age range’s bottom and higher limits are quite subjective.

As seen in Figure 1 above, a declining slope can be seen among those in the middle age group ranging from 36–65 years with lower recall of COVID-19 in both surveys. However, detailed observations show that the recall of COVID-19 was significantly lower in the latest survey in 2022 compared to those in 2020. The recent progress from the pandemic to the endemic phase brought

more structure to the day-to-day lives of many Malaysians, resulting in a lower recall of COVID-19 compared to 2020, when Malaysians were grappling with uncertainties during the outbreak.

While we expect the recall of COVID-19 will be on a consistently downward trend for the oldest individuals sampled in the study, we observed a slight increase of COVID-19 mentions among those in their late 60s, considered part of the older adult population. This age group is at a higher risk of severe illness or death from the virus and, as such, has faced unique challenges during the pandemic. From a health perspective, COVID-19 posed a more severe impact among people in this age group, notably those with health issues such as lung or heart disease, diabetes, or immune system disorders especially those with health conditions such as lung or heart disease, diabetes, or conditions that affect their immune system. Older adults have also faced significant social and emotional challenges during the pandemic. Isolation measures reduced social interactions, and limitations on visiting loved ones in healthcare facilities have taken a toll on their mental well-being, leading to a high recall of the pandemic.

Comparing the two survey findings, we observe that the range for the formative years is much wider, from 18–36 years, compared to those found in previous studies. While Mannheim (1952) claimed that a key age range is between 17 and 25 years, Schuman and Rieger (1992) classified the formative years as roughly between 13 and

25. Considering the incident's recentness and priority, the age range for COVID-19 may be broader. Data obtained in 2022 confirmed the speculation made earlier in 2020. The impact of COVID-19 extends beyond the traditional "emerging adulthood" age range and affects a wider population due to its recency and global significance. Schuman and Corning (2012) assert that because of increased media coverage and heated debate among students and peers, the arbitrary range of the critical years may be bigger or begin sooner. The pandemic has impacted people of all ages, from children to older adults. Each age group may experience unique challenges and consequences related to COVID-19. The range of impact is indeed wider for COVID-19 due to its global reach, rapid spread, and broad socioeconomic implications.

A Logistic Regression analysis was conducted to provide stronger empirical evidence. In 2022, the results of Logistic Regression displayed a similar significant age effect on the recall of COVID-19 as in 2020. In both surveys, age is the strongest predictor for remembering COVID-19 compared to other predictors such as income and education. On top of that, the same analysis also supported the age effect in most of the historical events mentioned, namely the Tsunami of 2004, the Independence of Malaysia in 1957, the 15th General Election (2021), the 14th General Election (2018) and the Introduction of GST 2015. Each generational cohort has a stronger recall of historical events during their formative years.

It is vital to remember that collective memory creation is a complex process influenced by a variety of social, cultural, and psychological elements. Given the ongoing nature of the COVID-19 pandemic and the major structural change it has brought since its onset, more empirical research will be needed to examine the long-term collective memory of COVID-19 and its impact on different age groups and societies.

CONCLUSION

In conclusion, our study, conducted in 2020 and 2022, provides important support for the Critical Years Hypothesis and sheds light on the collective memory concerning the COVID-19 pandemic. We found that individuals in their formative years exhibited a stronger recall of the COVID-19 crisis compared to older adults. This trend remained consistent over two years after the pandemic's emergence. Furthermore, the Logistic Regression analysis for both years yielded additional empirical evidence for the cohort effect in shaping collective memory, not only for COVID-19 but also for other major historical events in Malaysia. It suggests that individuals' age cohorts play a significant role in determining their memory of significant events. This study holds significant value as it investigates the collective memory of a major global event during its early years. Unlike previous research on collective memory, which often focused on events that occurred in the distant past, our study captures the formation and evolution of collective memory as the

COVID-19 pandemic unfolded in real time. By examining the recall patterns and cohort effects, we contribute to understanding how collective memory is influenced by age and the recency of the event.

These findings have implications for future studies on the long-term impact of the COVID-19 pandemic on collective memory, as well as for understanding how other ongoing events shape collective memory in their early stages. It is the first study in Malaysia to test the effect of COVID-19 on collective memory and the Critical Years Hypothesis. Through this study, we know that every generation is unique because every generation remembers different historical events. Hence, their remembrances of historical events lead to different beliefs, values, lifestyles, and attitudes. Understanding these generational differences can be valuable in various contexts, such as marketing, workplace dynamics, and social policy. It is vitally important for marketers, businesses, and public policymakers to pay attention to changes in behavior and habits to implement strategies and tactics to maintain existing consumers and attract new ones.

Despite valuable findings, it is important to acknowledge some limitations that should be considered when interpreting the findings. Firstly, our study employed a cross-sectional design, collecting data at two points (2020 and 2022). This design limits our ability to examine changes in collective memory over time within individuals. Longitudinal studies would provide a more comprehensive understanding of

the trajectory and evolution of collective memory on COVID-19.

Secondly, our study's findings are based on a specific sample of respondents, which may not fully represent the diversity of the population. The sample may have included individuals with particular characteristics or experiences that could have influenced their recall of the COVID-19 pandemic. Therefore, caution should be exercised when generalizing the findings to the broader population.

Thirdly, our study relied on self-report measures to assess recall and collective memory. Self-report measures are subject to subjective interpretation and potential response biases. Respondents may have been influenced by social desirability or their perceptions of what is expected.

Lastly, our study was conducted within a Malaysian context and its historical events. The findings may not directly apply to other countries or cross-cultural contexts. The impact of the COVID-19 pandemic on collective memory could vary across different societies and may be influenced by unique cultural, social and historical factors.

Future research should address these limitations through larger and more diverse samples, longitudinal designs and a comprehensive examination of various influencing factors to provide a more nuanced understanding of the collective memory of the COVID-19 pandemic.

Overall, our study emphasizes the importance of considering the Critical Years Hypothesis and the influence of age

cohorts when studying collective memory, particularly for significant events like the COVID-19 pandemic. Further research is warranted to explore the long-term effects and the evolving nature of collective memory surrounding this global event.

ACKNOWLEDGEMENT

This work was supported by the Ministry of Higher Education (MOHE), Malaysia, under the Fundamental Research Grant Scheme (FRGS; FRGS/1/2021/SS01/USM/02/17).

REFERENCES

- Abel, M., Umanath, S., Fairfield, B., Takahashi, M., Roediger, H. L., III, & Wertsch, J. V. (2019). Collective memories across 11 nations for World War II: Similarities and differences regarding the most important events. *Journal of Applied Research in Memory and Cognition*, 8(2), 178-188. <https://doi.org/10.1016/j.jarmac.2019.02.001>
- Becton, J. B., Walker, H. J., & Jones-Farmer, A. (2014). Generational differences in workplace behavior. *Journal of Applied Social Psychology*, 44(3), 175-189. <https://doi.org/10.1111/jasp.12208>
- Bikmen, N. (2023). Pandemics past: Collective memories for a global community? *Group Processes & Intergroup Relations*, 27(4), 499-514. <https://doi.org/10.1177/13684302231187261>
- Blackburn, K. (2009). Recalling war trauma of the Pacific war and the Japanese occupation in the oral history of Malaysia and Singapore. *The Oral History Review*, 36(2), 231-252. <https://doi.org/10.1093/ohr/ohp041>
- Bodnar, J. (1992). *Remaking America: Public memory, commemoration, and patriotism in the twentieth century*. Princeton University Press. <https://doi.org/10.2307/j.ctv131bw3q>
- Budiawan. (2017). How do Indonesians remember Konfrontasi? Indonesia–Malaysia relations and the popular memory of “Confrontation” after the fall of Suharto. *Inter-Asia Cultural Studies*, 18(3), 364-375. <https://doi.org/10.1080/14649373.2017.1345349>
- Constantin, S. V. (2013). The post-80s generation in Beijing: Collective memory and generational identity. *International Journal of Area Studies*, 8(1), 5-36.
- Cordonnier, A., Rosoux, V., Gijs, A., & Luminet, O. (2022). Collective memory: An hourglass between the collective and the individual. *Memory, Mind & Media*, 1, Article e8. <https://doi.org/10.1017/mem.2022.1>
- Cupi, D. (2024). The role of the Albanian media as mediator and creator of collective memory. *International Journal of Law and Policy*, 2(1). <https://doi.org/10.59022/ijlp.146>
- Dong, E., Du, H., & Gardner, L. (2020). An interactive web-based dashboard to track COVID-19 in real time. *The Lancet Infectious Diseases*, 20(5), 533-534. [https://doi.org/10.1016/S1473-3099\(20\)30120-1](https://doi.org/10.1016/S1473-3099(20)30120-1)
- Douglas, J., Terrence, T., & Barbara, J. (2019, December 17). *The deadliest flu: The complete story of the discovery and reconstruction of the 1918 Pandemic Virus*. Centre for Disease Control and Prevention. https://archive.cdc.gov/www_cdc_gov/flu/pandemic-resources/1918-pandemic-h1n1.html
- Durkheim, É. (1912). *The elementary forms of religious life* (J. W. Swain, Trans.). George Allen & Unwin. (Original work published 1912)
- Edkins, J. (2003). Trauma and the memory of politics. *Perspectives on Politics*, 2(3), 567-568. <https://doi.org/10.1017/CBO9780511840470>
- Erl, A. (2020). Afterword: Memory worlds in times of Corona. *Memory Studies*, 13(5), 861-874. <https://doi.org/10.1177/1750698020943014>

- Finkenauer, C., Luminet, O., Gisle, L., El-Ahmadi, A., Van Der Linden, M., & Philippot, P. (1998). Flashbulb memories and the underlying mechanisms of their formation: Toward an emotional-integrative model. *Memory & Cognition*, 26(3), 516-531. <https://doi.org/10.3758/BF03201160>
- Griffin, E. (2004). *A first look at communication theory* (6th ed.). McGraw-Hill.
- Hair, J. F., Bush, R. K., & Ortinau, D. J. (2009). *Marketing research: In a digital information environment* (6th ed.). McGraw-Hill.
- Halbwachs, M. (1980). *The collective memory* (F. J. Ditter Jr. & V. Y. Ditter, Trans.). Harper & Row. (Original work published 1952)
- Halbwachs, M. (1992). *On collective memory*. (L. A. Coser, Trans.). The University of Chicago Press. (Original work published 1925). <https://doi.org/10.7208/chicago/9780226774497.001.0001>
- Harold, J., & Fong, E. (2017). Mobilizing memory: Collective memory schemas and the social boundaries of Jews in Toronto. *Ethnic and Racial Studies*, 41(2), 343-361. <https://doi.org/10.1080/01419870.2017.1344719>
- Hirst, W., Yamashiro, J. K., & Coman, A. (2018). Collective memory from a psychological perspective. *Trends in Cognitive Sciences*, 22(5), 438-451. <https://doi.org/10.1016/j.tics.2018.02.010>
- Holbrook, M. B., & Schindler, R. M. (1994). Age, sex, and attitude toward the past as predictors of consumers' aesthetic tastes for cultural products. *Journal of Marketing Research*, 31(3), 412-422. <https://doi.org/10.2307/3152228>
- Hutchison, E. (2016). Trauma and political community. In *Affective communities in world politics: Collective emotions after trauma* (pp. 33-71). Cambridge University Press. <https://doi.org/10.1017/CBO9781316154670.004>
- Hutton, P. H. (1993). *History as an art of memory*. New York University Press.
- Koppel, J., Brown, A. D., Stone, C. B., Coman, A., & Hirst, W. (2013). Remembering President Barack Obama's inauguration and the landing of US airways flight 1549: A comparison of the predictors of autobiographical and event memory. *Memory*, 21(7), 798-806. <https://doi.org/10.1080/09658211.2012.756040>
- Lebo, M. J., & Weber, C. (2014). An effective approach to the repeated cross-sectional design. *American Journal of Political Science*, 59(1), 242-258. <https://doi.org/10.1111/ajps.12095>
- Lee, F. L., & Chan, J. M. (2018). Memory mobilization, generational differences, and communication effects on collective memory about Tiananmen in Hong Kong. *Asian Journal of Communication*, 28(4), 397-415. <https://doi.org/10.1080/01292986.2018.1425465>
- Mannheim, K. (1952). The problem of generations. In P. Kecskemeti (Ed.), *Essays on the Sociology of Knowledge* (pp. 276-320). Routledge and Kegan Paul.
- Meeter, M., Ochtman, D. J., Janssen, S. M., & Murre, J. M. (2010). Of sports and politics: Predicting category-specific retention of news events from demographic variables. *European Journal of Cognitive Psychology*, 22(1), 117-129. <https://doi.org/10.1080/09541440802708037>
- Meredith, G., & Schewe, C. D. (1994). The power of cohorts. *American Demographics*, 12(12), 22-31.
- Ministry of Health Malaysia. (2020, March 2). Kenyataan Akhbar Kementerian Kesihatan Malaysia: Situasi semasa jangkitan penyakit coronavirus 2019 (COVID-19) di Malaysia [Malaysian Ministry of Health Press Statement: The current situation of the 2019 coronavirus disease (COVID-19) in Malaysia] [Press release]. Ministry of Health Malaysia. <https://www.moh.gov.my>

- gov.my/moh/press_releases/KENYATAAN%20AKHBAR%20COVID19%20Mac2020.pdf
- Mustafa, H., Mukhiar, S. N. S., Jamaludin, S. S. S., & Jais, N. M. (2021). Covid-19 and collective memory among Malaysians: Does generation matter? *Pertanika Journal of Social Science and Humanities*, 29(4), 15-32. <https://doi.org/10.47836/pjssh.29.4.15>
- Noble, S. M., & Schewe, C. D. (2003). Cohort segmentation. *Journal of Business Research*, 56(12), 979-987. [https://doi.org/10.1016/s0148-2963\(02\)00268-0](https://doi.org/10.1016/s0148-2963(02)00268-0)
- Outbreak.my [@outbreak.my]. (2020). COVID-19 Outbreak Live Updates. Outbreak.my. Retrieved May 4, 2023, from <https://www.outbreak.my/>
- Roediger, H. L., III, & Abel, M. (2015). Collective memory: A new arena of cognitive study. *Trends in Cognitive Sciences*, 19(7), 359-361. <https://doi.org/10.1016/j.tics.2015.04.003>
- Ryder, N. B. (1965). The cohort as a concept in the study of social change. *American Sociological Review*, 30(6), 843-861. <https://doi.org/10.2307/2090964>
- Schuman, H., & Corning, A. (2012). Generational memory and the critical period: Evidence for national and world events. *Public Opinion Quarterly*, 76(1), 1-31. <https://doi.org/10.1093/poq/nfr037>
- Schuman, H., & Corning, A. (2017). The conversion of generational effects into collective memories. *International Journal of Public Opinion Research*, 29(3), 520-532.
- Schuman, H., & Rieger, C. (1992). Collective memory and collective memories. In M. A. Conway, D. C. Rubin, H. Spinnler, & W. A. Wagenaar (Eds.), *Theoretical perspectives on autobiographical memory*. NATO ASI Series (Vol. 65, pp. 323-336). Springer. https://doi.org/10.1007/978-94-015-7967-4_19
- Schuman, H., & Scott, J. (1989). Generations and collective memories. *American Sociological Review*, 54(3), 359-381. <https://doi.org/10.2307/2095611>
- Schwartz, B. (1991). Social change and collective memory: The democratization of George Washington. *American Sociological Review*, 56(2), 221-236. <https://doi.org/10.2307/2095781>
- Schwartz, B. (2008). Collective memory and abortive commemoration: Presidents' Day and the American holiday calendar. *Social Research: An International Quarterly*, 75(1), 75-110. <https://doi.org/10.1353/sor.2008.0042>
- Scott, J., & Zac, L. (1993). Collective memories in Britain and the United States. *Public Opinion Quarterly*, 57(3), 315-331. <https://doi.org/10.1086/269378>
- Stone, C. B., & Jay, A. C. (2019). From the individual to the collective: The emergence of a psychological approach to collective memory. *Applied Cognitive Psychology*, 33(4), 504-515. <https://doi.org/10.1002/acp.3564>
- Tay, F. (2015) *Making Malaysian Chinese: War, memory, histories and identities* [Doctoral dissertation, University of Manchester]. https://www.research.manchester.ac.uk/portal/files/54574221/FULL_TEXT.PDF
- Ting, H., Lim, T.-Y., Run, E. C., Koh, H., & Sahdan, M. (2017). Are we baby boomers, gen X and gen Y? A qualitative inquiry into generation cohorts in Malaysia. *Kasetsart Journal of Social Sciences*, 39(1), 109-115. <https://doi.org/10.1016/j.kjss.2017.06.004>
- United Nations. (2022, May 18). *If we don't feed people, we feed conflict: Secretary-General tells Global Food Security Call to Action ministerial event, warning mass hunger looms* [Press release]. <https://press.un.org/en/2022/sgsm21285.doc.htm>

- Wang, Q. (2009). Are Asians forgetful? Perception, retention and recall in episodic remembering. *Cognition*, *111*(1), 123-131. <https://doi.org/10.1016/j.cognition.2009.01.004>
- Wang, Q. (2021). The cultural foundation of human memory. *Annual Review of Psychology*, *72*, 151-179. <https://doi.org/10.1146/annurev-psych-070920-023638>
- Wertsch, J. V., & Roediger, H. L., III. (2008). Collective memory: Conceptual foundations and theoretical approaches. *Memory*, *16*(3), 318-326. <https://doi.org/10.1080/09658210701801434>
- World Health Organization. (2020, March 11). *WHO Director General's opening remarks at the media briefing on COVID-19*. <https://www.who.int/director-general/speeches/detail/who-director-general-s-opening-remarks-at-the-media-briefing-on-covid-19---11-march-2020>
- World Health Organization. (2023). *WHO Coronavirus (COVID-19) dashboard*. Retrieved June 23, 2023, from <https://covid19.who.int>
- World Health Organization. (2024). *WHO coronavirus (COVID-19) dashboard*. Retrieved August 8, 2024, from <https://covid19.who.int>
- Yasseri, T., Gildersleve, P., & David, L. (2022). Collective memory in the digital age. In S. M. O'Mara (Ed.), *Progress in Brain Research* (Vol. 274, pp. 203-226). Elsevier. <https://doi.org/10.1016/bs.pbr.2022.07.001>

Psychometric Properties of the Strength-based Parenting Questionnaire Parent-version in Malaysia

Clarisse Roswini Kalaman¹, Norhayati Ibrahim^{1,2*}, Choy Qing Cham¹, Meng Chuan Ho³, Yan-Li Siaw⁴, Amira Najiha Yahya⁴ and Ching Sin Siau⁵

¹*Center for Healthy Ageing and Wellness (H-CARE), Faculty of Health Sciences, Universiti Kebangsaan Malaysia, Kuala Lumpur 50300, Malaysia*

²*Institute of Islam Hadhari, Universiti Kebangsaan Malaysia, Bangi 43600, Malaysia*

³*Centre for Pre-U Studies, UCSI University (Springhill Campus), Port Dickson 71010, Malaysia*

⁴*Department of Educational Psychology & Counselling, Faculty of Education, Universiti Malaya, Kuala Lumpur 50603, Malaysia*

⁵*Centre for Community Health Studies (ReaCH), Faculty of Health Sciences, Universiti Kebangsaan Malaysia, Kuala Lumpur 50300, Malaysia*

ABSTRACT

This study aims to translate the Strength-Based Parenting Questionnaire Parent-Version (SBP-Q-PV) into Malay and describe its validation process among Malaysian parents. In Phase 1, the forward-backward translation process of the SBP-Q-PV into Malay was described. In Phase 2, the Malay SBP-Q-PV validation process was conducted (n1 = 180), and the hypothesized factor structure was verified (n2 = 100). The principal component analysis derived a 14-item two-factor model. The confirmatory factor analysis revealed that the model demonstrated acceptable goodness-of-fit indices ($\chi^2/df = 1.75$; CFI = 0.95, NFI = 0.88, TLI = 0.93, PNFI = 0.74) and accounted for 63.87% of the total variance explained. All items were loaded into the same domain as the original questionnaire. The final questionnaire recorded excellent internal consistency estimates of 0.92 and 0.95 in

Study 1 and Study 2, respectively. Both the strengths-knowledge subconstruct and the strengths-use subconstruct of the Malay SBP-Q-PV also scored good Cronbach's α estimates ($\alpha \geq 0.80$) in Study 1 and Study 2. The convergent validity evaluated via the Parenting Authority Questionnaire and discriminant validity evaluated via the Satisfaction with Life Scale demonstrated moderately positive correlations ($r > 0.30$). This initial study shows that the 14-item

ARTICLE INFO

Article history:

Received: 06 February 2024

Accepted: 26 August 2024

Published: 16 December 2024

DOI: <https://doi.org/10.47836/pjssh.32.4.06>

E-mail addresses:

P111694@siswa.ukm.edu.my (Clarisse Roswini Kalaman)

yatieibra@ukm.edu.my (Norhayati Ibrahim)

P111693@siswa.ukm.edu.my (Choy Qing Cham)

home@ucsiuniversity.edu.my (Meng Chuan Ho)

yanli@um.edu.my (Yan-Li Siaw)

amirayahya@um.edu.my (Amira Najiha Yahya)

chingsin.siau@ukm.edu.my (Ching Sin Siau)

* Corresponding author

Malay SBP-Q-PV yielded two factors and demonstrated acceptable reliability values among Malay-speaking parents. However, additional research is required to validate the questionnaire further.

Keywords: Cross-cultural validation, Malaysia, positive parenting, reliability, strength-based parenting

INTRODUCTION

Parenting Styles and Strength-based Parenting

Strength-based parenting—a type of parenting approach where parents focus on identifying and nurturing their children’s strengths—has been found to correlate with reduced stress levels and greater life satisfaction among adolescents (Jach et al., 2017; Waters, 2015a, 2015b; Whittle et al., 2014). Considering its importance, there is a need to research strength-based parenting practices in Malaysia. However, this effort is hampered by a lack of a valid and reliable measure of strength-based parenting among Malaysian parents.

Parenting style refers to parents’ various strategies, methods, attitudes, and behaviors while raising their children (Mak et al., 2020). The study of parenting styles, pioneered by Diana Baumrind through her research in the 1960s and 1970s, looks into the complex activities reflecting a range of inherent patterns of parental beliefs, methods and behaviors that work independently or collectively to influence child developmental outcomes (Baumrind, 1967). Researchers have examined parenting using a range of methods over the years, taking into account

parenting behaviors, parenting traits, or parenting styles (Kuppens & Ceulemans, 2018). Positive psychology in parenting practices gives rise to positive parenting (Seligman & Csikszentmihalyi, 2000). Authoritative and strength-based parenting is a positive parenting style (Waters, 2015a).

While positive parenting is associated with parental warmth, sensitivity and supportiveness, strength-based parenting enables parents to recognize and assist children in using their strengths (Waters, 2015a). Studies carried out by Waters (2015a, 2015b) in the field of parenting recognized Strength-Based Parenting (SBP) as a newly developed and successful positive parenting concept. Strength-based parenting aims to “identify and cultivate positive situations, positive processes and positive qualities” in children and adolescents (Waters, 2015b, p. 690). According to Waters (2015b), SBP adapts a child’s existing strengths and reinforces those strengths to face life’s challenges. Parents who adopt a strength-based parenting style identify and sharpen the child’s strengths while simultaneously de-emphasizing the child’s weaknesses (Waters, 2017). Studies investigating strength-based parenting practices in relation to developmental outcomes of adolescents have been conducted over the years (Khan & Francis, 2015; Sumargi & Giovanni, 2021; Tang et al., 2022; Waters & Sun, 2017). Many of these studies seemed to support the ability of strength-based parenting practices to recognize and nurture a child’s strengths in life, thus positively predicting the child’s developmental outcomes supported by

several studies (Loton & Waters, 2017; Sumargi & Firlita, 2020; Waters, Loton, Grace, et al., 2019; Waters, Loton, & Jach, 2019; Waters & Sun, 2017).

Potential Outcomes of Parenting Styles

Many individuals, such as siblings and grandparents, influence a child's development (Howe et al., 2022; Liang et al., 2021). Parents, especially, are responsible for teaching, nurturing, and guiding children through their lifespan development. In the context of the parent-child relationship, parenting styles and practices set the tone for a child's growth (Gaspar & de Matos, 2017; Kuppens & Ceulemans, 2018).

Parenting styles could be influential in leading to either favorable or negative developmental outcomes for the child (Breiner et al., 2016). For example, negative parenting styles such as authoritarian and permissive styles have been related to perceived child behavior problems (Chi et al., 2020; Haslam et al., 2020). Authoritarian parenting style was also associated with lower emotional regulation (Haslam et al., 2020), higher sibling conflicts (Liu & Rahman, 2022), and higher internalizing/externalizing problems in children (Marcone et al., 2020). On the other hand, authoritative parenting is associated with a host of positive outcomes such as prosocial behavior (Kang & Guo, 2022), academic achievement (Hayek, Schneider et al., 2022) and psychosocial adjustment (Qiu et al., 2021). These outcomes are important as their influence extends beyond childhood and affects mental health, health and general

well-being in adulthood (Keijser et al., 2020; Hayek, Tueni, et al., 2021).

This study notes that strength-based parenting has been associated with several positive outcomes, especially in Australian-based studies. It was associated with reduced stress through strength-based coping approaches, indicating that strength-based parenting may increase the ability to draw upon strength-based coping approaches to deal with stress ($n = 103$; 11 to 12 years old; Waters, 2015b). Additionally, greater happiness, lower depression levels and higher self-efficacy have been associated with perceived parental strength-based parenting, as found in a large-scale study ($n = 11,138$; 10 to 18 years old; Loton & Waters, 2017). Other studies indicated that a high level of strength-based parenting was tied to greater strengths-use and well-being ($n = 363$, 12 to 20 years old; Jach et al., 2017) as well as higher academic achievement due to higher perseverance levels ($n = 741$; 11–20 years old; Waters, Loton, & Jach, 2019).

Waters, Loton, Grace, et al. (2019) extended the research in a longitudinal study among 202 high school students aged between 12 and 15 at three-time points to thoroughly investigate the association between changes in subjective well-being and strength-based parenting across time. The findings demonstrated that the participants' well-being at future time points was not predicted by perceived strength-based parenting at the baseline, indicating that strength-based parenting needs to be practiced on an ongoing basis by parents.

Interestingly, Allen et al. (2022) discovered that among 404 Australian high school students ages 11 to 18, higher stress-related growth was significantly associated with higher perceived strength-based parenting during the COVID-19 pandemic.

Strength-based parenting has also been investigated in the Asian context. For instance, Sumargi and Firlita's (2020) study among 215 Indonesian high school students aged between 13 and 18 revealed a relationship between self-esteem and both domains of strength-based parenting. Additionally, two studies conducted in Turkey among adolescents aged between 14 and 18 (with 350 and 370 participants, respectively; Sağkal, 2019; Sağkal & Özdemir, 2019) found that mental toughness mediated the relationship between strength-based parenting and school engagement (Sağkal, 2019). Sağkal and Özdemir (2019) further found that mental toughness possesses a mediating role in the relationship of strength-based parenting towards psychological distress and subjective happiness.

Strength-based Parenting Questionnaire

The Strength-Based Parenting Questionnaire (SBP-Q), developed by Waters (2015a, 2015b) in Australia, is a self-administered questionnaire consisting of 14 items. There are two versions of the questionnaire, both of which measure perceived strength-based parenting by parents and by adolescents. Each questionnaire (parent and adolescent version) aims to measure two aspects of strength-based parenting: strengths-

knowledge and strengths-use. Waters (2015a, 2015b) modified and adapted Govindji and Linley's (2007) Strengths Knowledge Scale (SKS) and Strengths Use Scale (SUS). Strengths, as defined by Govindji and Linley (2007), are "the things you are able to do well or do best" (p. 146) and had conceptualized the SKS and SUS within a coaching psychology context rooted in humanistic psychology. Strengths-knowledge involves recognizing and being aware of one's strengths, while strengths-use refers to employing one's strengths in various settings (Govindji & Linley, 2007). The SKS and SUS were originally developed and tested on college students in the UK.

Many studies have applied the SBP-Q to children, adolescents and adults, demonstrating various positive outcomes of strength-based parenting. For instance, Waters (2015a) conducted a study on 689 children and adolescents aged 7 to 12 and found that life satisfaction twelve months later was predicted by child/adolescent-perceived strength-based parenting. A similar finding could be seen in Waters' (2015a) second study among 127 parent-adolescent dyads, which further showed that higher levels of strength-based parenting reported by parents were associated with greater life satisfaction among adolescents.

Malaysia as the Context of this Study

Malaysia is a multi-ethnic and multi-cultural country of various ethnicities such as Malays, Chinese, Indians, aborigines, Bumiputera Sabah and Bumiputera

Sarawak. As a result, parenting in the Malaysian context has been shaped by its various cultures (Masiran, 2022). Studies surrounding parenting in Malaysia still commonly employ Baumrind's parenting style model (Zulkefly et al., 2021). Given Malaysia's relatively collectivist culture, parenting behaviors among Malaysians are typically influenced by collectivistic socialization, emphasizing cultural beliefs, norms and values (Zulkefly et al., 2021). Mofrad and Uba's (2014) study found that the predominant parenting style in Malaysia was authoritarian. According to Masiran (2022), authoritarian parenting may not always be associated with negative outcomes in the Malaysian context. Rather, culturally confirmed parenting styles could be more relevant in this context. However, a few Malaysian studies (Ghani et al., 2014; Hong et al., 2012; Ishak et al., 2012; Kiadarbandsari et al., 2016) found that majority parents had employed an authoritative parenting style, which has led to positive outcomes among children, such as a positive youth development (Kiadarbandsari et al., 2016) and academic achievement (Ishak et al., 2012), while higher levels of perceived parental control among adolescents were linked with worse mental conditions (Noordin et al., 2020).

Rationale of the Study

Strength-based parenting is an important construct to be further examined in the Malaysian context, considering the association found between higher levels of strength-based parenting and

positive adolescent outcomes, such as self-esteem, subjective happiness and school engagement, in the studies above conducted globally and in Asia. However, there is a dearth of research surrounding this parenting approach. Strength-based parenting is an approach worthy of further exploration in the Malaysian context to provide a parenting modality that complements authoritative parenting and adds to the current knowledge on parenting in Malaysia. It is especially relevant for Malaysian youth because strength-based approaches such as strength-based parenting promote a supportive environment to reinforce their strengths (Bowers et al., 2010; Owens & Waters, 2020).

Furthermore, the study is interested in translating and validating the parent version of the strength-based parenting questionnaire, as a parent report provides primary information on parenting practices. In past international studies, adolescents' reports of their parents' perceived strength-based parenting practice were more thoroughly researched (Allen et al., 2022; Jach et al., 2017; Sumargi & Giovanni, 2021; Tang et al., 2022). A parent-report scale has the potential to be applied to younger children who are not able to self-report their perceived strength-based parenting, thereby including an important segment of the potential population to be studied in the future. Parents' reports of their perceived strength-based parenting are also important as they can be used to provide feedback to parents and give room for self-reflection on their parenting practices. For example, the two subscales, Strengths Knowledge and

Strengths Use may help parents identify specific strengths in their adolescent children, such as knowing what their children do best and applying them through acts such as giving them opportunities to use their strengths. Furthermore, although English is a second language commonly used in Malaysia, certain segments of society, such as parents from rural areas, may not be fluent in English (Renganathan, 2023). Hence, this study aims to translate the Strength-Based Parenting Questionnaire Parent-Version (SBP-Q-PV) into the Malay language as well as to determine the factorial structure, reliability and validity among parents of children and adolescents among Malaysian parents who could speak Malay. This study is the first attempt to validate the SBP-Q-PV among Malaysian parents who could speak Malay since the development of the strength-based parenting approach. The development of the Malay SBP-Q-PV will contribute to the knowledge of parenting styles and suggest a standard strength-based parenting instrument that could be utilized among Malaysian parents who can speak Malay.

METHODS

Study Design

This cross-sectional study aims to establish the validity and reliability of the SBP-Q-PV among Malaysian parents who can speak Malay.

Participants

With a minimum of 200 to 300 participants, the sample-to-item ratio of 2 to 20 participants

per item is the general rule of thumb used in this study to assume the sample size needed for questionnaire validation (Comrey & Lee, 1992; Costello & Osborne, 2005; Hair et al., 2018; Suhr, 2006). With a 15% drop-out rate in the assumption of having at least 15 participants per item, this study targeted 242 participants for recruitment (Enders, 2003). Participants in this study should be citizens of Malaysia and parents of at least one child or adolescent aged 19 years old and below. All individuals under the age of 18 were defined as children in this study (United Nations Children's Fund [UNICEF], 1989), and adolescents as individuals aged between 10 and 19 years old (World Health Organization [WHO], n.d.). Participants should also be able to read and understand Malay, an official language of Malaysia. Exclusion criteria included parents who were either not able or unwilling unable or unwilling to provide informed consent.

Participant Characteristics

This study received voluntary responses from a total of 323 participants. However, due to missing data or not fulfilling the inclusion criteria (e.g., reported to have no children or the youngest being more than 19 years old), 43 participants (13.3%) were excluded listwise. Hence, 280 parents (86.7% of the initial sample) were included in the final analysis. Table 1 displays the participants' demographic characteristics of participants from both Study 1 and Study 2. Overall, 215 (76.8%) participants were female and the remaining 65 (23.2%) were male. Participants' age ranged from

21 to 70 ($M = 38.79$, $SD = 7.85$). Most participants were Malay (57.5%), and most were married (94.3%). More than half of the participants were middle-class parents with a household income of RM4,850 and above. All participants claimed to have received formal education, and nearly half claimed to have a postgraduate academic qualification (43.2%). Participants in this study reported a range of having 1 to 9 children (Table 1).

Table 1
Socio-demographic characteristics of parents in the study (n = 280)

Variable	Study 1 (n = 180)	Study 2 (n = 100)	Total (n = 280)
	n (%)	n (%)	n (%)
Age			
Mean age (SD)	39.00 (8.08)	38.40 (7.44)	38.79 (7.85)
Min-max	21–63	25–70	21–70
Gender			
Female	137 (76.1)	78 (78.0)	215 (76.8)
Male	43 (23.9)	22 (22.0)	65 (23.2)
Race			
Malay	114 (63.3)	47 (47.0)	161 (57.5)
Chinese	42 (23.3)	46 (46.0)	88 (31.4)
Indian	16 (8.9)	4 (4.0)	20 (7.1)
Others	8 (4.4)	3 (3.0)	11 (3.9)
Marital Status			
Married	170 (94.4)	94 (94.0)	264 (94.3)
Unmarried	3 (1.7)	2 (2.0)	5 (1.8)
Divorced/ Separated	6 (3.3)	3 (3.0)	9 (3.2)
Widowed	1 (0.6)	1 (1.0)	2 (0.7)
Academic Level			
Secondary School	14 (7.8)	6 (6.0)	20 (7.1)
Diploma	13 (7.2)	12 (12.0)	25 (8.9)
Undergraduate Degree	73 (40.6)	41 (41.0)	114 (40.7)
Masters/ PhD	80 (44.4)	41 (41.0)	121 (43.2)
Family Income			
< RM 4,850	45 (25.0)	22 (22.0)	67 (23.9)
RM 4,850 to RM 10,959	92 (51.1)	53 (53.0)	145 (51.8)
> RM10,960	43 (23.9)	25 (25.0)	68 (24.3)
No. of children			
1–4	166 (92.2)	96 (96.0)	262 (93.57)
5–9	14 (7.8)	4 (4.0)	18 (6.43)
Age of youngest child (years)			
Age range	0–19 years old	1 month-19 years old	0–19 years old
Mean (SD)	6.5 (5.7)	5.8 (4.9)	6.2 (5.4)

Note. Number (n) is based on available information and is reported over total participants ($n = 280$). The remaining unreported number is the missing value.

Source: Authors' work

Procedures

Ethical Approvals

This study was approved by the Medical Research and Ethics Committee (MREC), Ministry of Health Malaysia (NMRR-20-754-53871), and the Research Ethics Committee, Universiti Kebangsaan Malaysia (JEP-UKM-2021-886) and conducted according to the guidelines of the Declaration of Helsinki.

Phase I: Translation and Adaptation Process

Permission was obtained from the author of the SBP-Q-PV (Waters, 2015a, 2015b) to translate and validate the questionnaire in Malay. As shown in Figure 1, the forward and backward translation of the Strength-Based Parenting Questionnaire Parent-Version (SBP-Q-PV) from English to Malay was conducted independently by two linguistic experts as well as two experts in the subject matter. The subject-matter experts consisted of a developmental psychologist for the forward translation and a health psychologist for the backward translation. A meeting among a multi-disciplinary team of psychologists and public health experts was held to ensure content validity. The team reviewed and combined the two versions of the translated questionnaires. The barriers to linguistic comprehension, contextualized meaning attached to a construct and the possible interpretations of the translated instrument were considered through the adaptation process (Borsa et al., 2012).

A pilot study was conducted to finalize the items in the Malay SBP-Q-PV and assess the internal consistency reliability of the scale score. The translated questionnaire was disseminated online via Google Forms to the friends of the author (CSS), who were parents of children and adolescents, using convenience sampling. Twenty participants, comprising approximately 7% of the total sample size, were selected to complete the questionnaire. The internal consistency reliability of the scale score was $\alpha = 0.82$, indicating suitability for further validation with a larger sample.

Phase II: Validation Process

Study 1 explored the factorial structure and examined the questionnaire's validity. In contrast, Study 2 was conducted to verify the hypothesized factor structure of the SBP-Q-PV. For both studies, an online questionnaire was constructed using an online platform (Google Forms). Due to the physical limitations imposed by the lockdown during the COVID-19 pandemic, the questionnaire was disseminated to personal contacts who were the authors' family, friends and colleagues, and to social groups such as religious organizations via social media platforms (WhatsApp and Facebook). Due to the same link being shared on WhatsApp and Facebook, we did not tabulate the number of individuals who responded via the respective platforms. Individuals who clicked on the link to join the study were directed to the participant information sheet, which explained the study objectives and assured them of

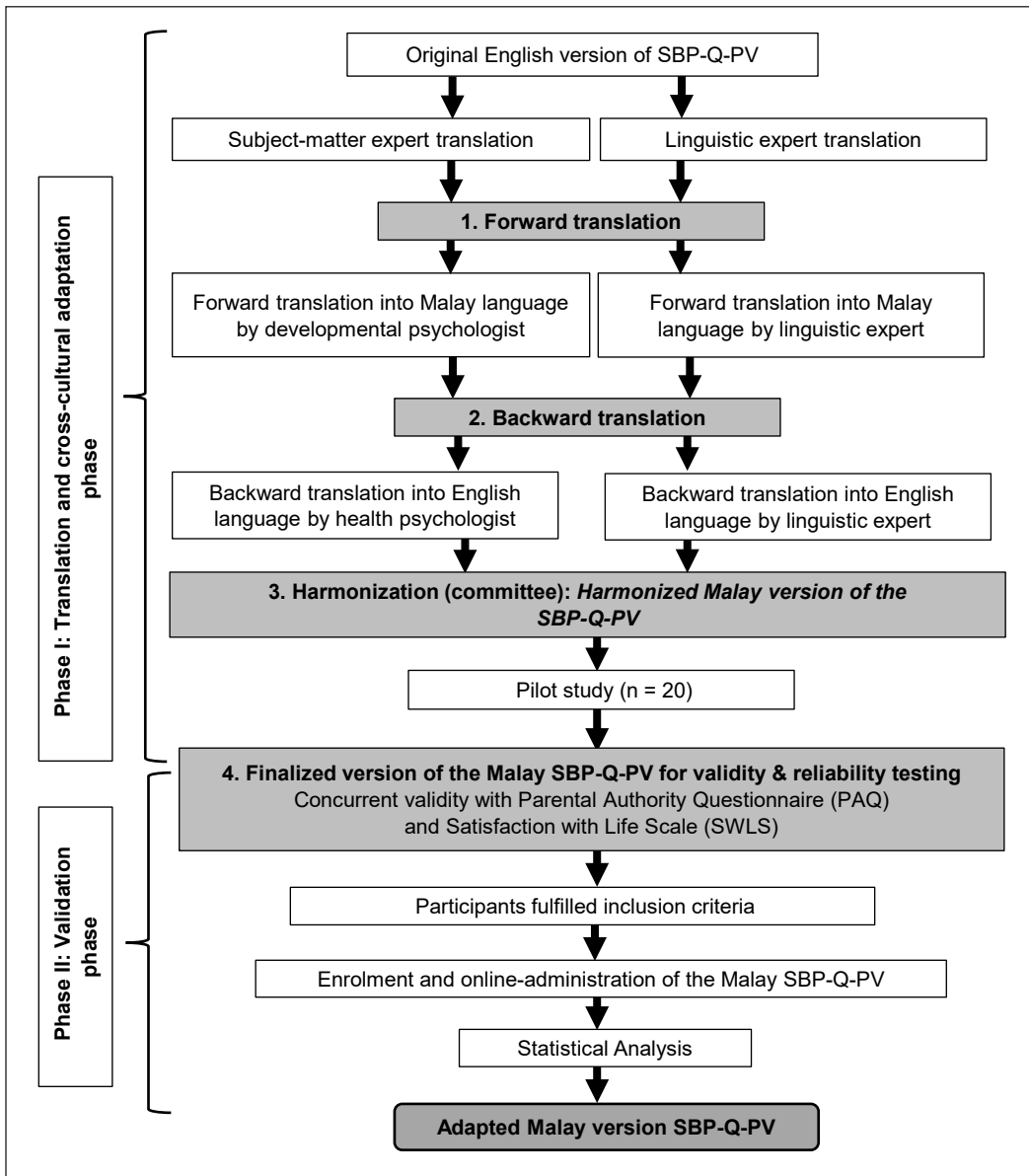


Figure 1. Workflow of the Translation and Validation process of the English SBP-Q-PV to the adapted Malay SBP-Q-PV

Source: Authors' work

the confidentiality of their information. Participation was voluntary.

No identifiers were used in the forms; only the authors could access the data to maintain strict confidentiality. Participants

were informed that only group data would be used for publication purposes and that no risk should be expected beyond minimal discomfort from being asked questions pertaining to their parenting practices and life

satisfaction. Participants who consented to join the study checked a box indicating their informed consent before they were directed to answer the questionnaire. No deadline or time limit was set for participants to complete the questionnaire. Hence, sufficient time was given to participants to understand and weigh the risks and benefits of their participation before filling in the questionnaire. Personal identifiers such as names or email addresses were not collected.

This study had minimal risk, and the participants did not receive monetary compensation. There were no direct benefits to the participants, but they were briefed that their participation could benefit other parents in the Malaysian population. Personal identifiers such as names or email addresses were not collected.

Measures

The participants' demographic characteristics were collected, including their parents' age, sex, race, marital status, academic level, family income, total number of children and the age of their youngest child.

The Strength-Based Parenting Questionnaire Parent-Version (SBP-Q-PV) is a self-administered questionnaire comprising 14 items. The items were scored on a 7-point Likert scale ranging from "Strongly Disagree" to "Strongly Agree". The responses were coded as 1 = Strongly Disagree, 2 = Disagree, 3 = Slightly Disagree, 4 = Neither Agree nor Disagree, 5 = Slightly Agree, 6 = Agree, and 7 = Strongly Agree, except for item 2, which was reverse coded. According to Jach et al. (2017), an

exploratory factor analysis revealed that a two-factor solution consisting of the two components of knowledge and use was theoretically sensible and represented the data well. The omega reliability coefficients of the original scale were $\omega = 0.95$, 95% CI (0.94, 0.96; Jach et al., 2017). According to Waters (2015a), the internal consistency reliability of the original SBP-Q-PV was $\alpha = 0.81$ and $\alpha = 0.72$ for strengths-knowledge and strengths-use, respectively. It shows that the original SBP-Q-PV has acceptable reliability.

The Parenting Authority Questionnaire (PAQ) was developed by Buri (1991). This questionnaire consisted of 30 items with three subscales: permissive, authoritarian and authoritative. However, this study only used the 10-item authoritative subscale in measuring the convergent validity of SBP-Q-PV. The 5-point Likert scale ranging from 1 = "Strongly Disagree" to 5 = "Strongly Agree" reported good internal consistency reliability for both mother (Cronbach $\alpha = 0.82$) and father (Cronbach $\alpha = 0.85$; Buri, 1991). According to Asnawi (2019), the reliability value of the translated questionnaire was .64 in Malaysia. In addition, the internal consistency reliability of the scale in this study was good, with a Cronbach's α value of .89. The PAQ was used to determine the convergent validity of SBP-Q-PV and to ensure that the translated SBP-Q-PV is associated with contemporary, accepted standards (Cronbach & Meehl, 1955).

The 5-item Satisfaction with Life Scale (SWLS) developed by Diener et al. (1985) reported high internal consistency reliability

(Cronbach's $\alpha = 0.90$). Participants' assessment of satisfaction with life was assessed on a 5-point Likert scale (1 = Strongly Disagree, 2 = Disagree, 3 = Neither Disagree nor Agree, 4 = Agree, 5 = Strongly Agree). The translated scale scored a Cronbach's alpha of 0.83 in Malaysia (Swami & Chamorro-Premuzic, 2009). Similarly, in this study, the scale scored a Cronbach's α of 0.83, indicating good internal consistency reliability. The SWLS was used to measure the discriminant validity of the SBP-Q-PV (Taherdoost, 2016).

Statistical Analysis

IBM SPSS Statistics for Windows, Version 26.0 (IBM Corp., Armonk, N.Y., USA) and IBM SPSS Amos, Version 20.0 (IBM Corp., Meadville, P.A., USA) were used to conduct statistical analysis in this study. The demographic characteristics of participants in both Study 1 and Study 2 were interpreted using descriptive analysis. In Study 1, the factor structure of SBP-Q-PV was examined using the principal component analysis (PCA) extraction and varimax rotation. The number of factors to be extracted was set at two, based on the two-factor solution for strengths-knowledge and strengths-use (Jach et al., 2017). A minimum of $r > 0.30$ and $r > 0.50$ was chosen as the threshold value for the inter-item correlation and item-to-total correlation, respectively, to measure the construct validity of the Malay SBP-Q-PV (Cohen, 1988; Robinson et al., 1991).

In this study, we tested the convergent validity of the Malay SBP-Q-PV with the Malay PAQ and discriminant validity

between the Malay SBP-Q-PV with the Malay SWLS (Figure 1). Convergent validity refers to how the questionnaire correlates with other questionnaires with the same concept (Taherdoost, 2016). In this study, the SBP-Q-PV may be related to the PAQ as both measured positive parenting. On the other hand, discriminant validity refers to the fact that the questionnaire is unrelated to another questionnaire, which measures a different concept (Taherdoost, 2016). In our study, the SBP-Q-PV may demonstrate discriminant validity with the SWLS as they measured different concepts.

In Study 2, confirmatory factor analysis was performed.

RESULTS

Study 1: Validity Analysis

Phase I of the study resulted in the final version of the SBP-Q-PV to be used for further validity and reliability analysis. There was an inconsistency in the translation of certain English affixes into Malay among the linguistic and subject-matter experts, such as whether the word '*kekuatan*' or '*kelebihan*' denoted strength. Based on a consensus, the authors decided to use the word "*kekuatan*" to denote strength as it has a closer literal meaning to the original English word.

Data exploration showed skewness and kurtosis were within ± 3 and ± 7 , respectively; therefore, the normality was assumed to be the data distribution (Kim, 2013). The Kaiser–Meyer–Olkin test of sampling adequacy (KMO = 0.91) and the significant value of Bartlett's test of sphericity, $\chi^2(91) = 1632.74$,

$p < 0.001$, both of which were generated through PCA using varimax rotation, were within an acceptable range (Kaiser, 1974), thus supporting the inclusion of each item for factor analysis. As shown in Table 2, all 14 items satisfied the construct validity of the questionnaire, scoring more than 0.30 in the inter-item correlation and more than 0.50 in the item-to-total correlation (Robinson et al., 1991). The minimum requirements for factor loading (> 0.40 ; Guadagnoli & Velicer, 1988) and communality (> 0.20 ; Child, 2006)

values of all items in the questionnaire were met, suggesting reasonable factorability for a two-factor solution.

PCA using varimax rotation was performed for the 14 items of the two-factor solution SBP-Q-PV. The 14-item questionnaire accounted for 63.9% of the total variance explained. Items 1, 2, 3, 4, 5, 6 and 7 are loaded under the strengths-knowledge subconstruct, while items 8, 9, 10, 11, 12, 13 and 14 are loaded under the strengths-use subconstruct (see Table 2).

Table 2

Explained variance, factor loadings, and commonalities based on a principal components analysis with varimax rotation for 14 items from the adapted Malay SBP-Q-PV (n = 180)

Item No.	Two-factor solution			
	Explained variance (%)	Factor Loading	Communality	Item-to-total correlations
Total	63.87			
Factor 1: Strengths-knowledge	33.47			
6. I know my children’s strengths well. <i>Saya betul-betul tahu akan kekuatan anak-anak saya.</i>		0.86	0.79	0.73
4. I am aware of my children’s strengths. <i>Saya menyedari kekuatan anak-anak saya.</i>		0.86	0.76	0.63
7. I see the things that my children do best. <i>Saya nampak perkara yang terbaik yang boleh dilakukan oleh anak-anak saya.</i>		0.75	0.73	0.77
3. I know what my children do best. <i>Saya tahu perkara-perkara terbaik yang anak-anak saya boleh lakukan.</i>		0.65	0.55	0.64
1. I see the strengths (personality, abilities, talents and skills) that my children have. <i>Saya nampak kekuatan (personaliti, kebolehan, bakat dan kemahiran) yang ada pada anak-anak saya.</i>		0.70	0.54	0.61
2. I don’t know what my children’s strengths are. <i>Saya tidak tahu apa kekuatan anak-anak saya.</i>		0.58	0.34	0.41
5. I know the things my children are good at doing. <i>Saya tahu perkara-perkara yang anak-anak saya boleh lakukan dengan baik.</i>		0.76	0.76	0.79

Table 2 (continue)

Item No.	Two-factor solution			
	Explained variance (%)	Factor Loading	Communality	Item-to-total correlations
Factor 2: Strengths-use	33.40			
10. I encourage my children to do what they are good at. <i>Saya menggalakkan anak-anak saya untuk melakukan perkara yang mereka mahir.</i>		0.82	0.71	0.66
9. I encourage my children to always play to their strengths. <i>Saya menggalakkan anak-anak saya untuk sentiasa melakukan perkara mengikut kekuatan mereka.</i>		0.81	0.68	0.63
12. I give my children lots of opportunities to use their strengths. <i>Saya berikan banyak peluang untuk anak-anak saya menggunakan kekuatan mereka.</i>		0.74	0.63	0.67
8. I give my children opportunities to regularly do what they do best. <i>Saya beri peluang kepada anak-anak saya untuk sering melakukan perkara yang terbaik yang mereka mampu lakukan.</i>		0.76	0.66	0.68
11. I suggest to my children that they should use their strengths every day. <i>Saya mencadangkan supaya anak-anak saya patut menggunakan kekuatan mereka setiap hari.</i>		0.76	0.60	0.59
13. I help my children think of ways to use their strengths. <i>Saya membantu anak-anak saya berfikir tentang cara untuk menggunakan kekuatan mereka.</i>		0.72	0.59	0.65
14. I show my children how to use their strengths in different situations. <i>Saya menunjukkan anak-anak saya bagaimana menggunakan kekuatan mereka dalam situasi berbeza.</i>		0.73	0.60	0.64

Source: Authors' work

Convergent and Discriminant Validity

As shown in Table 3, a significant and positive correlation was obtained between strengths-knowledge and strengths-use subconstructs with the Parenting Authority Questionnaire ($r = 0.43, p < 0.001$; $r = 0.45, p < 0.001$) and Satisfaction with Life Scale ($r = 0.24, p < 0.001$; $r = 0.19, p < 0.01$). The overall Malay SBP-Q-PV obtained a

significant and positive correlation with Parenting Authority Questionnaire ($r = 0.49, p < 0.001$) and Satisfaction with Life Scale ($r = 0.24, p < 0.001$).

Study 2: Confirmatory Factor Analysis

Given these overall indicators, confirmatory factor analysis was used to analyze the model fit for the two-factor solution of the

Table 3
Convergent and discriminant validity of SBP-Q-PV

Domain	Parenting Authority Questionnaire (Convergent validity) <i>n</i> = 180		Satisfaction with Life Scale (Discriminant validity) <i>n</i> = 180	
	<i>p</i> -value	Correlation coefficient	<i>p</i> -value	Correlation coefficient
Specific Strengths-knowledge (SK)	< 0.001	0.43***	< 0.001	0.24***
Strength-use (SU)	< 0.001	0.45***	< 0.001	0.19***
Strength-based Parenting Questionnaire (SU + SK)	< 0.001	0.49***	< 0.001	0.24***

Source: Authors' work

Malay SBP-Q-PV. The 14-item two-factor model demonstrated acceptable goodness-of-fit scores ($\chi^2/df = 1.75$; NFI = 0.88, CFI = 0.95, TLI = 0.93, RMSEA (90% CI) = 0.087 [0.06, 0.11]; see Table 4).

Reliability Analysis

Table 5 reports the descriptive and reliability analysis of the questionnaire's items and factors. Over half of the participants selected the "Agree" option on all 14 items. The Malay SBP-Q-PV scored excellent internal consistency reliability coefficients of 0.92 (overall) in Study 1 and 0.95 (overall) in Study 2. As shown in Table 5, the factors in the questionnaire also demonstrated good internal consistency reliability coefficients in both Study 1 and Study 2.

The questionnaire demonstrated excellent internal consistency reliability coefficients when analyzed according to groups of parents with a total of 1 to 4 children ($\alpha = 0.93$) and parents with a total of 5 to 9 children ($\alpha = 0.94$). Parents of the Malay race scored an internal consistency reliability of $\alpha = 0.93$, while parents who are non-Malays scored an internal consistency reliability value of $\alpha = 0.92$.

DISCUSSION

The study aimed to examine the factorial structure and psychometric properties of the translated Malay Strength-Based Parenting Questionnaire Parent-Version modified to measure the extent to which parents are aware of and support the use of their

Table 4
Goodness-of-fit indicators for the two-factor models of the 14-item Malay SBP-Q-PV (*n* = 100)

Model	χ^2 (<i>df</i>)	χ^2/df^a	NFI ^b	CFI ^c	TLI ^d	PNFI ^e	RMSEA ^f (90%CI) ^g
14-item SBP-Q-PV							
2-factor model	133.01 (76)	1.75	0.88	0.95	0.93	0.74	0.087 (0.062, 0.111)

Note. ^aDegree of Freedom; ^bNormed Fit Index; ^cComparative Fit Index; ^dTucker-Lewis Index; ^eParsimonious Normed Fit Index; ^fRoot Mean Square Error of Approximation; ^gConfidence Interval; **p* < 0.001.

Source: Authors' work

Table 5

Descriptive Statistics for the 14-item Adapted Malay SBP-Q-PV Factors (n = 280)

Domain	α	Median (IQR)	Min (max)	Range	Question No.	Agree, n (%)	Undecided, n (%)	Disagree, n (%)
Strengths-knowledge								
Study 1 (n = 180)	0.89	42.00 (8.00)	10.00 (49.00)	39.00	1	258 (92.1)	18 (16.4)	4 (1.4)
Study 2 (n = 100)					0.91	2	27 (9.6)	22 (7.9)	231 (82.5)
	3	256 (91.4)	19 (6.8)	5 (1.8)				
	4	256 (91.4)	15 (5.4)	9 (3.2)				
	5	262 (93.6)	14 (5.0)	4 (1.4)				
	6	231 (82.5)	36 (12.9)	13 (4.6)				
	7	255 (91.1)	17 (6.1)	8 (2.9)				
Strengths-use								
Study 1 (n = 180)	0.90	42.00 (6.00)	20.00 (49.00)	29.00	8	264 (94.3)	14 (5.0)	2 (0.7)
Study 2 (n = 100)					0.91	9	267 (95.4)	11 (3.9)	2 (0.7)
	10	265 (94.6)	12 (4.3)	3 (1.1)				
	11	242 (86.4)	30 (10.7)	8 (2.9)				
	12	259 (92.5)	18 (6.4)	3 (1.1)				
	13	253 (90.4)	25 (8.9)	2 (0.7)				
	14	241 (86.1)	31 (11.1)	8 (2.9)				

Source: Authors' work

child's strengths. The main findings of this study were that the 14-item Malay SBP-Q-PV was a valid and reliable questionnaire to measure strength-based parenting in Malaysia. All the items of the Malay 14-item SBP-Q-PV were similar to those in the original Australian SBP-Q-PV (Waters, 2015a), in which items 1 to 6 were allocated under the strengths-knowledge subconstruct and items 7 to 14 under the strengths-use subconstruct. A study conducted in Indonesia to test the validity of the scale also found similar subconstructs of strengths-knowledge and strengths-use (Hardani et al., 2022). Therefore, the subconstructs of

this questionnaire seem to be stable across cultures.

Regarding the model fit of the Malay SBP-Q-PV, the confirmatory factor analysis examined the model fit of the 14-item Malay SBP-Q-PV and found that the two-factor model had demonstrated acceptable goodness-of-fit indices, with the TLI (0.94) and CFI (0.95) meeting the recommended cut-off value (≥ 0.95). According to Lai and Green (2016), researchers should not be hasty in automatically disregarding the model merely based on cut-off values but rather consider further model comparisons from various perspectives. In addition, the

PNFI (0.75) value of the 12-item two-factor Malay SBP-Q-PV was more parsimonious. On that account, it can be concluded that the two-factor model of the 14-item SBP-Q-PV by Waters (2015a, 2015b) was deemed to have an acceptable model fit within the Malaysian context.

In 2015, Waters developed and tested the SBP-Q-Youth Version concurrently with authoritative parenting in predicting adolescents' life satisfaction (Waters, 2015b). Similarly, this study follows Waters's (2015a) lead by conducting convergent and discriminant validity testing of the 14-item SBP-Q-PV with the authoritative subscale of the Parenting Authority Questionnaire and the Satisfaction with Life Scale. The values for both convergent and discriminant validity (> 0.30) demonstrated a moderately positive correlation, indicating that the SBP-Q-PV can relate to other positive parenting practices and predict parents' life satisfaction. Likewise, in a study done by Waters and Sun (2017), the strength-based parenting approach was found to have positively impacted parents' well-being in addition to benefiting children.

In terms of the questionnaire's internal consistency reliability, both the strengths-knowledge subconstruct, consisting of 7 items (items 1, 2, 3, 4, 5, 6 and 7), and the strengths-use subconstruct, consisting of 7 items (items 8, 9, 10, 11, 12, 13 and 14), of the 14-item Malay SBP-Q-PV scored good Cronbach's α estimates (≥ 0.80). The comparisons in internal consistency reliability between groups of parents with

a total of 1 to 4 children vs. parents with a total of 5 to 9 children and between Malays and non-Malays showed that the reliability values were all more than 0.90, denoting excellent internal consistency across groups. The questionnaire's overall internal consistency reliability in both Study 1 and Study 2 was excellent, thus indicating that all 14 items were stable and highly consistent in measuring the same construct across cultures (Tavakol & Dennick, 2011).

CONCLUSION

This study successfully translated and validated the Strength-Based Parenting Questionnaire Parent-Version (SBP-Q-PV) for Malay-speaking parents, marking a significant advancement in the understanding and applying of strength-based parenting frameworks within the Malaysian context. By fostering an increased understanding of positive parenting strategies, this study contributes to the broader discourse on enhancing child development and even parental well-being within diverse cultural settings.

Implications

It is the first study to translate and validate the Strength-Based Parenting Questionnaire Parent-Version (SBP-Q-PV) within the Malaysian context. These findings offer a starting point for future research endeavors in Malaysia to focus more broadly on different aspects of positive parenting. The translated and validated Malay SBP-Q-PV encourages more studies on strength-based parenting, thus providing more information

about strength-based parenting practices in Malaysia.

Theoretically, this study marks a significant advancement in positive parenting by expanding the applicability of strength-based parenting frameworks to Eastern contexts, such as Malaysia. The successful translation and validation of the Malay version of SBP-Q-PV enriches the existing literature on strength-based parenting and sets the stage for future researchers to explore and refine positive parenting theories in diverse populations.

From a practical perspective, translating and validating a new tool into the Malay language can potentially add new knowledge, as populations who are Malay speaking (e.g., some parents from rural areas) are now able to test their strength-based parenting knowledge and skills. The newly validated subscales may help parents focus on youth strength development by helping them identify their children's strengths and as a reminder of how to use strength-based parenting skills with their children. Experts who promulgate positive parenting skills and strength-based parenting may use this scale to measure the strengths of knowledge and use of the parents before and after their interventions. Since this scale has been found to have excellent reliability among non-Malay participants, there is also potential for the scale to be employed among other ethnic groups in Malaysia.

This study's findings underscore the need for further studies on the benefits of strength-based parenting practices among parents and children in Malaysia.

Limitations and Recommendations for Future Studies

Participants in this study consisted of parents with a wide age range (20 – 69 years old), which thereby enabled the study to achieve heterogeneity of participants. In addition, the wide age range of the children (from 0 to 19 years old) may also be a flaw, as parents may employ different parenting strategies for young children as opposed to late adolescents. However, the generalizability of the questionnaire is limited, as a large number of participants in this study were female, and the participant ratio between ethnic groups was unequal. The data was gathered via online social media platforms, which may have introduced bias through self-selection and excluded participants without an internet connection, thus establishing the presence of sampling bias. We could not verify that the parents were indeed parents of children aged 0 to 19, as we had used an online survey form. The difficulties in translating English affixes into Malay resulted in complications in using different words with the same meaning. Future studies should consider further validation of the questionnaire using the word “kelebihan” instead of “kekuatan” for strengths to compare the two sets of questionnaires. This is especially true as the RMSEA and NFI exceeded the accepted cut-off. In addition, the factor loadings of some items were below .5. Therefore, the authors may need to reconsider the content of those items and perhaps reword and retest them. Future studies should consider

incorporating data collected from a larger, randomly selected sample and various settings to increase generalizability and to confirm the suggested two-factor model of the 14-item Malay SBP-Q-PV within the Malaysian context. The social desirability issues of this study were not discussed and, therefore, were considered a limitation of this study.

In conclusion, the final Malay SBP-Q-PV consisted of 14 items, all with a factor loading of above 0.40 under a two-factor model fit and showed an overall acceptable reliability value. Findings indicated that the items in the questionnaire assessed strength-based parenting practices across parents of typically developing children in the study sample. After this initial study, the questionnaire requires further validation for implementation within the Malaysian context.

ACKNOWLEDGEMENTS

The authors acknowledge and appreciate the anonymous participants' cooperation and contribution in providing valuable data to this study. They also wish to convey their gratitude to Professor Dr. Lea Waters (The University of Melbourne) for her permission to use the SBP-Q-PV for the research and her guidance regarding the analysis of the questionnaire in this study.

REFERENCES

- Allen, K., Waters, L., Arslan, G., & Prentice, M. (2022). Strength-based parenting and stress-related growth in adolescents: Exploring the role of positive reappraisal, school belonging, and emotional processing during the pandemic. *Journal of Adolescence*, 95, 176-190. <https://doi.org/10.1002/jad.12016>
- Asnawi, A. A. (2019). *Pengaruh gaya keibubapaan terhadap stres akademik: Kecerdasan emosi sebagai moderator* [The influence of parenting styles on academic stress: Emotional intelligence as a moderator] [Unpublished doctoral dissertation]. Universiti Malaysia Sabah.
- Baumrind, D. (1967). Childcare practices anteceding three patterns of preschool behavior. *Genetic Psychology Monographs*, 75(1), 43-88.
- Borsa, J. C., Damásio, B. F., & Bandeira, D. R. (2012). Cross-cultural adaptation and validation of psychological instruments: Some considerations. *Paidéia (Ribeirão Preto)*, 22, 423-432. <https://doi.org/10.1590/S0103-863X2012000300014>
- Bowers, E. P., Li, Y., Kiely, M. K., Brittan, A., Lerner, J. V., & Lerner, R. M. (2010). The five Cs model of positive youth development: A longitudinal analysis of confirmatory factor structure and measurement invariance. *Journal of Youth and Adolescence*, 39(7), 720-735. <https://doi.org/10.1007/s10964-010-9530-9>
- Breiner, H., Ford, M., & Gadsden, V. L. (2016). *Parenting matters: Supporting parents of children ages 0-8*. National Academic Press. <https://doi.org/10.17226/21868>
- Buri, J. R. (1991). Parental authority questionnaire. *Journal of Personality and Social Assessment*, 57(1), 110-119. https://doi.org/10.1207/s15327752jpa5701_13
- Chi, M. K. M., Yin, L., Li, M., Cheung, R. Y. H., & Oon, P. T. (2020). The relation between parenting stress and child behavior problems: Negative parenting styles as mediator. *Journal of Child and Family Studies*, 29, 2993-3003. <https://doi.org/10.1007/s10826-020-01785-3>
- Child, D. (2006). *The essentials of factor analysis* (3rd ed.). Continuum International Publishing Group.

- Cohen, J. (1988). *Statistical power analysis for the behavioral sciences* (2nd ed.). Lawrence Erlbaum Associates.
- Comrey, A. L., & Lee, H. B. (1992). *A first course in factor analysis*. Lawrence Erlbaum Associates.
- Costello, A. B., & Osborne, J. (2005). Best practices in exploratory factor analysis: Four recommendations for getting the most from your analysis. *Practical Assessment, Research, and Evaluation, 10*(7), 1-9. <https://doi.org/10.7275/jyj1-4868>
- Cronbach, L. J., & Meehl, P. E. (1955). Construct validity in psychological tests. *Psychological Bulletin, 52*(4), 281-302. <https://doi.org/10.1037/h0040957>
- Diener, E. D., Emmons, R. A., Larsen, R. J., & Griffin, S. (1985). The satisfaction with life scale. *Journal of Personality Assessment, 49*(1), 71-75. https://doi.org/10.1207/s15327752jpa4901_13
- Enders, C. K. (2003). Using the expectation maximization algorithm to estimate coefficient alpha for scales with item-level missing data. *Psychological Methods, 8*(3), 322-337. <https://doi.org/10.1037/1082-989X.8.3.322>
- Gaspar, T., & de Matos, M. G. (2017). Parenting practices: Parent's perception of the impact in children psychological wellbeing. *SM Journal of Family Medicine, 1*(2), Article 1008.
- Ghani, F. B. A., Kamal, S. L. A., & Aziz, A. A. (2014). The implication of parenting styles on the akhlak of Muslim teenagers in the South of Malaysia. *Procedia-Social and Behavioral Sciences, 114*, 761-765. <https://doi.org/10.1016/j.sbspro.2013.12.781>
- Govindji, R., & Linley, P. A. (2007). Strengths use, self-concordance and well-being: Implications for strengths coaching and coaching psychologists. *International Coaching Psychology Review, 2*, 143-153. <https://doi.org/10.53841/bsicpr.2007.2.2.143>
- Guadagnoli, E., & Velicer, W. F. (1988). Relation of sample size to the stability of component patterns. *Psychological Bulletin, 103*(2), 265-275. <https://doi.org/10.1037/0033-2909.103.2.265>
- Hair, J. F., Black, W. C., Babin, B. J., & Anderson, R. E. (2018). *Multivariate data analysis* (8th ed.). Pearson Prentice Hall.
- Hardani, R., Setiyawati, D., & Susetyo, Y. F. (2022). Strength-based parenting scale adaptation and validation for adolescents in Eastern culture: Strength-based parenting scale adaptation. *IIUM Journal of Human Sciences, 4*(2), 15-25. <https://doi.org/10.31436/ijohs.v4i2.252>
- Haslam, D., Poniman, C., Filus, A., Sumargi, A., & Boediman, L. (2020). Parenting style, child emotion regulation and behavioral problems: The moderating role of cultural values in Australia and Indonesia. *Marriage & Family Review, 56*(4), 320-342. <https://doi.org/10.1080/014949429.2020.1712573>
- Hayek, J., Schneider, F., Lahoud, N., Tueni, M., & de Vries, H. (2022). Authoritative parenting stimulates academic achievement, also partly via self-efficacy and intention towards getting good grades. *PLoS One, 17*(3), Article e0265595. <https://doi.org/10.1371/journal.pone.0265595>
- Hayek, J., Tueni, M., Schneider, F., & de Vries, H. (2021). Parenting style as longitudinal predictor of adolescents' health behaviors in Lebanon. *Health Education Research, 36*(1), 100-115. <https://doi.org/10.1093/her/cyaa045>
- Hong, C. Y., Baharudin, R., & Hossain, Z. (2012). Fathers' parenting styles in Chinese families in urban Malaysia. *Pertanika Journal of Social Sciences & Humanities, 20*(4), 1019-1034.
- Howe, N., Paine, A. L., Ross, H. S., & Recchia, H. (2022). Sibling relations in early and middle childhood. *The Wiley-Blackwell Handbook of Childhood Social Development, 443-458*. <https://doi.org/10.1002/9781119679028.ch24>

- Ishak, Z., Low, S. F., & Lau, P. L. (2012). Parenting style as a moderator for students' academic achievement. *Journal of Science Education and Technology, 21*(4), 487-493. <https://doi.org/10.1007/s10956-011-9340-1>
- Jach, H. K., Sun, J., Loton, D., Chin, T. C., & Waters, L. E. (2017). Strengths and subjective wellbeing in adolescence: Strength-based parenting and the moderating effect of mindset. *Journal of Happiness Studies, 19*(2), 567-586. <https://doi.org/10.1007/s10902-016-9841-y>
- Kaiser, H. F. (1974). An index of factorial simplicity. *Psychometrika, 39*, 31-36. <https://doi.org/10.1007/BF02291575>
- Kang, J., & Guo, H. (2022). The effects of authoritative parenting style on young adult children's prosocial behaviour: The mediating role of emotion-regulation. *China Journal of Social Work, 15*(2), 162-177. <https://doi.org/10.1080/17525098.2021.1956760>
- Keijser, R., Olofsdotter, S., Nilsson, K. W., & Åslund, C. (2020). The influence of parenting styles and parental depression on adolescent depressive symptoms: A cross-sectional and longitudinal approach. *Mental Health & Prevention, 20*, Article 200193. <https://doi.org/10.1016/j.mhp.2020.200193>
- Khan, A., & Francis, A. (2015). Strengths based practice with children with a mental health condition. *International Journal of Social Work and Human Services Practice, 3*(1), 9-19. <http://doi.org/10.13189/ijrh.2015.030102>
- Kiadarbandsari, A., Madon, Z., Hamsan, H. H., & Nouri, K. M. (2016). Role of parenting style and parents' education in positive youth development of adolescents. *Pertanika Journal of Social Sciences & Humanities, 24*(4), 1465-1480.
- Kim, H. Y. (2013). Statistical notes for clinical researchers: Assessing normal distribution (2) using skewness and kurtosis. *Restorative Dentistry & Endodontics, 38*(1), 52-54. <https://doi.org/10.5395/rde.2013.38.1.52>
- Kuppens, S., & Ceulemans, E. (2018). Parenting styles: A closer look at a well-known concept. *Journal of Child and Family Studies, 28*, 168-181. <https://doi.org/10.1007/s10826-018-1242-x>
- Lai, K., & Green, S. B. (2016). The problem with having two watches: Assessment of fit when RMSEA and CFI disagree. *Multivariate Behavioral Research, 51*(2-3), 220-239. <http://doi.org/10.1080/00273171.2015.1134306>
- Liang, X., Lin, Y., Van Ijzendoorn, M. H., & Wang, Z. (2021). Grandmothers are part of the parenting network, too! A longitudinal study on coparenting, maternal sensitivity, child attachment and behavior problems in a Chinese sample. *New Directions for Child and Adolescent Development, 2021*, 95-116. <https://doi.org/10.1002/cad.20442>
- Liu, C., & Rahman, M. N. A. (2022). Relationships between parenting style and sibling conflicts: A meta-analysis. *Frontiers in Psychology, 13*, Article 936253. <https://doi.org/10.3389/fpsyg.2022.936253>
- Loton, D. J., & Waters, L. E. (2017). The mediating effect of self-efficacy in the connections between strength-based parenting, happiness and psychological distress in teens. *Frontiers in Psychology, 8*, Article 1707. <https://doi.org/10.3389/fpsyg.2017.01707>
- Mak, M. C. K., Yin, L., Li, M., Cheung, R. Y. H., & Oon, P. T. (2020). The relation between parenting stress and child behavior problems: Negative parenting styles as mediator. *Journal of Child and Family Studies, 29*, 2993-3003. <https://doi.org/10.1007/s10826-020-01785-3>
- Marcone, R., Affuso, G., & Borrone, A. (2020). Parenting styles and children's internalizing-externalizing behavior: The mediating role of behavioral regulation. *Current Psychology,*

- 39(1), 13-24. <https://doi.org/10.1007/s12144-017-9757-7>
- Masiran R. (2022). A review of parenting in a multicultural country: The Malaysian experience. In S. A. Samadi (Ed.), *Parenting - challenges of child rearing in a changing society* (pp. 31-55). IntechOpen. <https://doi.org/10.5772/intechopen.101173>
- Mofrad, S., & Uba, I. (2014). Parenting style preference in Malaysia. In *The European Conference on Psychology & the Behavioral Sciences 2014* (pp. 119-128). The International Academic Forum.
- Noordin, I. D., Idris, I. B., Hod, R., Muhammad, N. A., Yusoff, H. M., Anuar, N. A., & Ghazali, Q. M. (2020). Do parenting style and adolescents' self-esteem contribute to mental health problems among young adolescents in Malaysia? An adolescents' perspective. *IIUM Medical Journal Malaysia*, 19(2), 89-97. <https://doi.org/10.31436/imjm.v19i2.1568>
- Owens, R. L., & Waters, L. (2020). What does positive psychology tell us about early intervention and prevention with children and adolescents? A review of positive psychological interventions with young people. *The Journal of Positive Psychology*, 15(5), 588-597. <https://doi.org/10.1080/17439760.2020.1789706>
- Qiu, Y., Xu, L., Pan, Y., He, C., Huang, Y., Xu, H., Lu, Z., & Dong, C. (2021). Family resilience, parenting styles and psychosocial adjustment of children with chronic illness: A cross-sectional study. *Frontiers in Psychiatry*, 12, Article 646421. <https://doi.org/10.3389/fpsy.2021.646421>
- Renganathan, S. (2023). English language education in rural schools in Malaysia: A systematic review of research. *Educational Review*, 75(4), 787-804. <https://doi.org/10.1080/00131911.2021.1931041>
- Robinson, J. P., Shaver, P. R., & Wrightsman, L. S. (1991). Criteria for scale selection and evaluation. In *Measures of Personality and Social Psychological Attitudes* (pp. 1-16). Academic Press. <https://doi.org/10.1016/b978-0-12-590241-0.50005-8>
- Sağkal, A. (2019). Direct and indirect effects of strength-based parenting on adolescents' school outcomes: Exploring the role of mental toughness. *Journal of Adolescence*, 76(1), 20-29. <https://doi.org/10.1016/j.adolescence.2019.08.001>
- Sağkal, A. S., & Özdemir, Y. (2019). Strength-based parenting and adolescents' psychological outcomes: The role of mental toughness. *Journal of Psychologists and Counsellors in Schools*, 29(2), 177-189. <https://doi.org/10.1017/jgc.2019.2>
- Seligman, M. E. P., & Csikszentmihalyi, M. (2000). Positive psychology: An introduction. *American Psychologist*, 55(1), 5-14. <https://doi.org/10.1037/0003-066X.55.1.5>
- Suhr, D. D. (2006). *Exploratory or confirmatory factor analysis*. SAS Institute.
- Sumargi A. M., & Firlita, S. (2020). Strength-based parenting as a predictor of adolescent self-esteem. *Jurnal Sains Psikologi*, 9(1), 26-38. <https://doi.org/10.17977/um023v9i12020p28-38>
- Sumargi, A. M., & Giovanni, J. (2021). Strength-based parenting and well-being in adolescence. *ANIMA Indonesian Psychological Journal*, 36(1), 90-107. <https://doi.org/10.24123/aij.v36i1.2788>
- Swami, V., & Chamorro-Premuzic, T. (2009). Psychometric evaluation of the Malay satisfaction with life scale. *Social Indicators Research*, 92, 25-33. <https://doi.org/10.1007/s11205-008-9295-7>
- Taherdoost, H. (2016). Validity and reliability of the research instrument: How to test the validation of a questionnaire/survey in a research. *International Journal of Academic Research and Management*, 3(5), 28-36. <https://doi.org/10.2139/ssrn.3205040>
- Tang, H., Lyu, J., & Xu, M. (2022). Direct and indirect effects of strength-based parenting on

- depression in Chinese high school students: Mediation by cognitive reappraisal and expression suppression. *Psychology Research and Behaviour Management*, 15, 3367-3378. <https://doi.org/10.2147/PRBM.S390790>
- Tavakol, M., & Dennick, R. (2011). Making sense of Cronbach's alpha. *International Journal of Medical Education*, 2, 53-55. <https://doi.org/10.5116/ijme.4dfb.8dfd>
- United Nations Children's Fund. (1989). *Convention on the rights of the child*. UNICEF. <https://www.unicef.org/child-rights-convention>
- Waters, L. E. (2015a). Strength-based parenting and life satisfaction in teenagers. *Advances in Social Science Research Journal*, 2(11), 158-173. <https://doi.org/10.14738/assrj.211.1651>
- Waters, L. E. (2015b). The relationship between strength-based parenting with children's stress levels and strength-based coping approaches. *Psychology*, 6(6), 689-699. <https://doi.org/10.4236/psych.2015.66067>
- Waters, L. E. (2017). Strength-based parenting: A new avenue of practice and research in positive psychology. In M. White, G. Slemp, & A. Murray (Eds.), *Future directions in well-being* (pp. 93-96). Springer. https://doi.org/10.1007/978-3-319-56889-8_17
- Waters, L. E., & Sun, J. (2017). Can a brief strength-based parenting intervention boost self-efficacy and positive emotions in parents? *International Journal of Applied Positive Psychology*, 1, 41-56. <https://doi.org/10.1007/s41042-017-0007-x>
- Waters, L. E., Loton, D. J., & Jach, H. K. (2019). Does strength-based parenting predict academic achievement? The mediating effects of perseverance and engagement. *Journal of Happiness Studies*, 20, 1121-1140. <https://doi.org/10.1007/s10902-018-9983-1>
- Waters, L. E., Loton, D. J., Grace, D., Jacques-Hamilton, R., & Zyphur, M. J. (2019). Observing change over time in strength-based parenting and subjective wellbeing for pre-teens and teens. *Frontiers in Psychology*, 10, Article 2273. <https://doi.org/10.3389/fpsyg.2019.02273>
- Whittle, S., Simmons, J. G., Dennison, M., Vijayakumar, N., Schwartz, O., Yap, M. B., Sheeber, L., & Allen, N. B. (2014). Positive parenting predicts the development of adolescent brain structure: A longitudinal study. *Developmental Cognitive Neuroscience*, 8, 7-17. <https://doi.org/10.1016/j.dcn.2013.10.006>
- World Health Organization. (n.d.). *Adolescent health*. https://www.who.int/health-topics/adolescent-health#tab=tab_3
- Zulkefly, N. S., Barra, S. M. M., Yahya, N. A., & Rozumah, B. (2021). Perceptions of parenting behavior by adolescents: The development of the Malaysian parenting behavior inventory. *Pertanika Journal of Social Science and Humanities*, 29(2), 1011-1034. <https://doi.org/10.47836/pjssh.29.2.15>

An Acoustic Study on the Citation Tones in Malaysian Mandarin

Xin Ren and Poh Shin Chiew*

Department of Malaysian Languages and Applied Linguistics, Faculty of Languages and Linguistics, Universiti Malaya, 50603 Kuala Lumpur, Malaysia

ABSTRACT

In the Global Chinese (GC) framework, Malaysia plays a crucial role in the spread and legacy of Mandarin. Although Malaysian Mandarin (MalM) has been extensively studied, its phonetic aspects have been neglected. Thus, this paper examines the four citation tones in MalM, in addition to the “checked quality”—termed the “fifth tone” (‘T5’) of MalM—by using Chinese dialectology supported by smartphone-based recordings. The findings suggest that, in MalM, the four tones contrast in tone height, tone value, and tone duration, with the main realizations being the high-level, low-level-rising, mid-falling, and high-falling contours, respectively. Other than the main tonal realizations, a number of variants are depicted. Furthermore, while MalM and *Putonghua* tones have evolved rather similarly, the checked quality—which is absent in *Putonghua* but was part of Middle Chinese, the shared ancestor of *Putonghua* and MalM—remains in MalM. However, there is a lack of distinctive phonemic contrast between Tone 4 and ‘T5,’ and there is insufficient evidence to consider ‘T5’ as a new tone category in this study. Unlike *Putonghua*, MalM is undergoing tonal reduction, like Singaporean and Taiwanese Mandarin. These findings indicate that, although Malaysian Mandarin (MalM) is undergoing substantial variations compared to *Putonghua*, it shares similarities with other Mandarin varieties, as there is some overlap in their tonal features. This study makes an empirical contribution to the body of research on tonal variations in the GC framework and echoes GC’s call for a pluricentric approach to Mandarin varieties.

ARTICLE INFO

Article history:

Received: 08 February 2024

Accepted: 25 July 2024

Published: 19 November 2024

DOI: <https://doi.org/10.47836/pjssh.32.4.07>

E-mail addresses:

tva180025@siswa.um.edu.my (Xin Ren)

chiewpohshin@um.edu.my (Poh Shin Chiew)

*Corresponding author

Keywords: Acoustic analysis, citation tones, Global Chinese, Malaysian Mandarin, tonal realizations

INTRODUCTION

Today, Mandarin is spoken by a regional and global community and is, therefore, a language with global ownership.

Accordingly, the Global Chinese (GC) concept has proposed challenging the traditional monolingual ideology, indicating a conceptual shift and a pluricentric approach to investigating Mandarin varieties. The increased worldwide usage of Mandarin has also led to innovations in its use, as it is employed by people from different language backgrounds and assumes diverse functions and forms in distinct settings. It is no longer relevant to associate Mandarin exclusively with *Putonghua*, the standard Chinese used in mainland China. Thus, GC advocates for a new research trend that uses *Putonghua* as a reference point rather than as a target for Mandarin varieties spoken outside of mainland China. The concept of GC has been influential in raising awareness about the diversity of Mandarin varieties and has driven scholarly attempts to study them.

Given the establishment, persistence, and spread of the Chinese language and culture in Malaysia, this Southeast Asian country is a crucial component within the broader notion of GC (Diao, 2018; D. M. Xu & Wang, 2009). As a multiracial society, Malaysia has Malay, Chinese, and Indian populations, as well as other ethnic groups. Malay is the official language, and English serves as the second language. Mandarin and Tamil are widely spoken in the Chinese and Indian communities, respectively. Aside from Mandarin, prominent Chinese dialects, such as Hokkien, Cantonese, and Hakka, are also used in Malaysia's Chinese community. As a multiethnic and multilingual country, Malaysia is a rich site for studying linguistic variation and change; its linguistic diversity

has aroused interest in Malaysian Mandarin (MalM; Guo, 2022; Y. Li, 2010, 2016; X. M. Wang, 2020). These studies mainly focus on the lexical and syntactic particularities of MalM, but acoustic analysis of the phonetic characteristics, particularly tonal characteristics, has been largely neglected.

In Mandarin, a syllable in isolation carries a citation tone and contrasts word meanings. *Putonghua* has four citation tones: Tone 1 (T1) through Tone 4 (T4). The four citation tones are represented in Chao's (1968) five-scale system with five distinctive levels, with 1 indicating the pitch floor and five denoting the pitch ceiling. Following Chao's system, the four citation tones in *Putonghua* contrast as in [55, 35, 214, 51]. When a citation tone is isolated, the tone contour is fairly stable and well-defined. However, when produced in context, the tone contour undergoes certain variations depending on the adjacent tones (Y. Xu, 1997). This phonological process is referred to as tone sandhi. T3 sandhi and half T3 sandhi are probably the best-known phonological processes in *Putonghua* (Duanmu, 2007). For example, T3 becomes T2 if another T3 follows it, and it becomes half T3 when it precedes T1, T2, or T4. These processes generate two allophonic variants of T3, regarded as the sandhi tone.

Thus far, existing research has sparked debate on the tonal properties of citation tones and the number of tone categories in MalM and Singaporean Mandarin (SigM)—either four categories (Tone 1, Tone 2, Tone 3, Tone 4) or five categories (the former tones and the “fifth tone”). T. Huang (2016a,

2016b) and Ng and Chiew (2012) identified the short-falling tone, the ‘fifth tone’ (T5), as a new tone category. In contrast, C. Y. Chen (1983) and Lee (2010) emphasized that ‘T5’ is not always distinguishable from T4 and preferred not to classify it as a contrastive tone category. Although previous studies have considered checked tones in the Middle Chinese tone system as a factor in the emergence of ‘T5,’ there is a lack of systematic analysis. Hence, it is necessary to examine the citation tones of MalM from a diachronic lens using Chinese dialectology methods. Our adoption of the term “fifth tone” in this paper does not indicate our full agreement with this concept; as it is commonly used, we have used it in this paper, but we have done so hesitantly.

Against these backdrops, this study aims to acoustically investigate tonal variations in MalM and compare them to those of neighboring varieties in the GC framework. The following questions guided our study:

1. How are the citation tones realized in MalM?
2. Can the “fifth tone” be considered a new tone category?

Literature Review

A Diachronic Lens: The Evolution of the Citation Tone System in Mandarin

Modern Chinese is believed to have developed from Middle Chinese (MC; circa 200–900 AD) in Chinese dialectology. Before exploring the tone system in MC, understanding the structure of the Chinese

syllable is necessary. As M. Y. Chen (2000) illustrated, the Chinese syllable is divided into an optional initial consonant and a final. The initial consonant is the onset; the final includes an optional medial (onglide) consonant and a rhyme. The rhyme consists of a nucleus and an optional coda, the latter of which can either be an offglide or a consonantal ending.

According to *Qieyun* (AD 601)—the Chinese rhyme dictionary of early MC—MC has four tone categories: *ping*, the level tone (平); *shang*, the rising tone (上); *qu*, the falling tone (去); and *ru*, the entering or checked tone (入). Based on their initials, each of these tones is split into one of two registers—the *yin* (upper) register for voiceless initials (阴) or the *yang* (lower) register for voiced initials (阳)—thereby generating eight tones: Tone 1 (MCT1) through Tone 8 (MCT8). In terms of syllable structure, MC tones are divided into two categories—the smooth tone and the checked tone—based on the rhyme type. The smooth tone contains either an open syllable (CV) or a syllable ending with a nasal stop (CVN); the checked tone contains a syllable that is closed by a stop coda (CVP, -p, -t, -k, often reduced to a glottal stop -q; M. Y. Chen, 2000). While *ping*, *shang*, and *qu* are smooth tones, *ru* is a checked tone. Because of the difference in syllable structures, a checked tone is perceived as auditorily shorter than a smooth tone. These eight MC tones underwent various splits and mergers and developed into modern Chinese. Figure 1 displays the evolution of citation

tones in *Putonghua*, drawn up based on M. Y. Chen's (2000) and Ma's (2002) research. Two important diachronic changes have occurred in *Putonghua*: all voiced obstruents have become voiceless, and all checked syllables have lost their stop codas

(M. Y. Chen, 2000). The MC tone system provides a common frame of reference in investigating the Chinese language (M. Y. Chen, 2000) and in the study of GC (X. M. Wang, 2019).

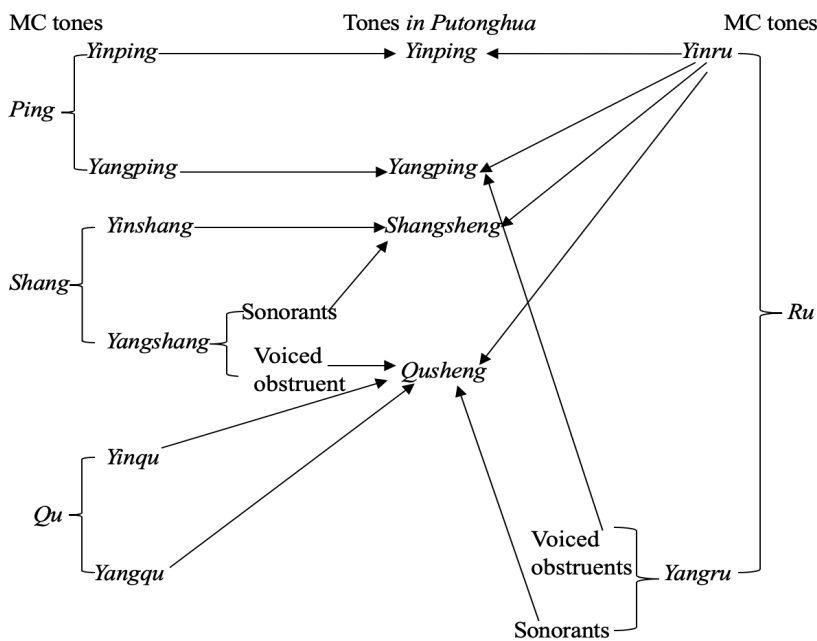


Figure 1. Correspondence between the tone systems in MC and *Putonghua*

Source: M. Y. Chen (2000); Ma (2002)

Previous Studies on the Citation Tones of Mandarin Varieties

The existing studies show that other Mandarin varieties have four citation tones, similar to *Putonghua* (T1, T2, T3, and T4), but with their own tonal properties. *Putonghua* and Taiwan Mandarin (TwM) generally have four-tone categories. In Taiwan Mandarin (TwM), scholars have not yet reached a consensus on whether T2 is dipping (Fon & Chiang, 1999; A. Li et al., 2006) or rising (Deng et al., 2006;

Fon et al., 2004; Kuo, 2018; Shi & Deng, 2006), and whether T3 is low-falling (Chiung, 1999; Fon et al., 2004; Kuo, 2018; A. Li et al., 2006; Shi & Deng, 2006) or dipping (Fon & Chiang, 1999). SigM has also drawn attention in recent years. While Chua's (2003) tonal transcription of SigM largely aligns with that of C. Y. Chen (1983) researchers disagree on whether T3 is represented by [11] (C. Y. Chen, 1983) or [211] (Chua, 2003). Another strand of research has looked at the four citation

tones in MalM. Based on the impressionist approach, J. Y. Chen (2007) described the four tones as [33/44, 24/35, 21, 31/53]. Following the acoustic approach, T. Huang (2016b) investigated the citation tones of MalM in the Malaysian state of Penang, revealing that MalM has four citation tones: [33, 23, 21, 53]. Despite the inconsistent tone values of the citation tones reported in previous research, their tone contours are still similar: T1 is produced as a level tone, T2 as a rising tone, T3 as a low-falling tone, and T4 as a high-falling tone. Nevertheless, Khoo (2013, 2017) observed that T4 is frequently realized as a high-level tone apart from a high-falling tone. Regarding the acoustic approach, Yeoh (2019) analyzed the variations of T4 in connected speech and confirmed Khoo's (2013, 2017) findings. Based on the tonal properties of the four citation tones, researchers suggested that tonal reduction happens in TwM and MalM (K. Huang, 2017; T. Huang, 2016b).

Not only that, as mentioned in the introduction above, but there is also a question about the tone categories of Mandarin varieties, such as SigM and MalM. Apart from the four citation tones, researchers have proposed an additional tone, the "fifth tone" ('T5'), and sought to identify its tonal properties. The 'T5' terminology implies an independent status in the tone system in MalM and SigM and indicates that these Mandarin varieties may have developed a new tone system compared to *Putonghua*. Interestingly, however, 'T5' is not found in TwM owing to the heavy influence of northern dialects

and the intensive teaching and learning of national phonetic symbols (C. Y. Chen, 1983). According to previous studies, 'T5' may be derived from the checked tone in MC (C. Y. Chen, 1983; Choo, 2013). Studies further indicated that the occurrence of 'T5' is constrained by the final types in SigM (Choo, 2013; Goh & Xu, 2003; Ng & Chiew, 2012; X. Y. Xu & Goh, 2001). Similar results have been reported for MalM, which is unsurprising given Singapore's geographic and linguistic proximity to Malaysia. For instance, the "fifth tone" has been mentioned in MalM, and the features of 'T5' in MalM are similar to descriptions by C. Y. Chen (1983) regarding SigM (T. Huang, 2016a, 2016b).

On the other hand, controversy also exists regarding 'T5's' tone value (C. Y. Chen, 1981, 1983; J. Y. Chen, 2007; T. Huang, 2016a, 2016b). C. Y. Chen (1981, 1983) was among the first to report on 'T5'. Using the auditory approach, C. Y. Chen (1983) suggested that, in SigM, 'T5' is a short falling tone that sometimes ends with a glottal stop, but the glottal stop varies in degree of prominence, and 'T5' is sometimes identical to T4. It was either realized as [51] or [53] or varying between [41] and [42] in SigM. In MalM, while J. Y. Chen (2007) suggested that the tone value of 'T5' is either [53] or [42], T. Huang (2016b) indicated that T5 is uttered as [53]. T. Huang (2016b) also indicated that 'T5' is accompanied by a glottal stop or a large number of creaks with a systematic acoustic study. Despite burgeoning research on tonal properties and governing rules on 'T5,' whether 'T5' is a

contrastive tone, an allotone, or a variant tone remains a conundrum. Additionally, the reason some non-checked syllables can surface similarly to ‘T5’ in both SigM and MalM remains in dispute (Choo, 2013; T. Huang, 2016a, 2016b; Ng & Chiew, 2012). In detail, while Huang (2016a) suggested that this phenomenon is probably due to overgeneralization, C. Y. Chen (1981) found that the non-checked syllable, “钢” (iron), a high-level tone in *Putonghua*, was realized as the high-falling tone in SigM. C. Y. Chen (1981) further attributed this to the influence of *Qusheng* in the Teochew dialect. It is further confirmed by Choo (2013). Hence, to date, the tonal properties of MalM are still unclear, and the tone categorization of ‘T5’ is unsettled.

Past studies on the citation tones in MalM shed light on the citation tones in tonal combinations or connected speech (see T. Huang 2016b; Yeoh, 2019). Such methods may result in tonal variations owing to the adjacent tones or connected speech. Besides, prior studies mainly focused on the production of the old generation (T. Huang, 2016b). Accordingly, by monosyllabic reading from a diachronic lens, the present study reports on the number of tone categories and their tonal properties by involving young MalM speakers in the GC framework.

METHODS

Participants

We recruited participants based on a self-reported questionnaire that collected demographic data and information about

language use in different contexts (e.g., at home, at school, and in dealings with the government). Participants consented to be recorded for research purposes. None of them reported any speech impairments. As Chinese Malaysians constitute the primary group contributing to MalM, and as undergraduates represent the young generation who have grown up in a predominantly multilingual context and were exposed to standardization of the Chinese language in Malaysia, known as *Kurikulum Bersepadu Sekolah Rendah*, we recruited 36 Chinese Malaysians aged 20–25 years (with an average age of 22) who had completed at least six years of Chinese-language education and were fluent in Mandarin. All speakers were female to maintain consistency regarding the gender variable. It was done to obviate the influence of specific speaker effects (Jacobi, 2009). It is also attributed to the pitch differences between male and female voices, and it was considered better to avoid analyzing male and female recordings together (Pillai et al., 2010).

As southern Chinese dialects play a crucial role in MalM variations (X. M. Wang, 2019), we selected these participants because they all considered at least a southern Chinese dialect to be their dominant home language. They occasionally used Malay and English besides Mandarin and southern Chinese dialects. Although the participants were from different dialect groups, including Hokkien, Cantonese and Hakka, we will consider them a cohesive group because these three dialects all

belong to southern Chinese dialects, and they preserve the checked tone in their phonology. Additionally, as shown in

Figure 2, they came from different states in Malaysia.

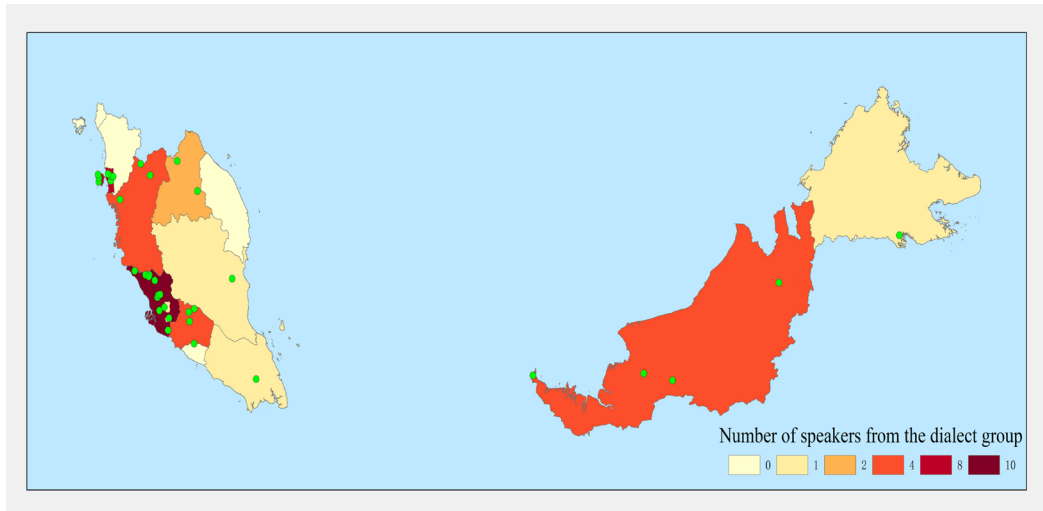


Figure 2. Malaysian map of the participants from their dialect group, mapped according to the locations of the participants' homes

Source: Authors' work

Reading Material

The reading material was designed using the methodological framework of Chinese dialectology, in which the standard method used to investigate the phonological system entails the use of *Fangyan Diaocha Zhibiao* (the *Questionnaire of Characters for a Dialect Survey*, hereafter *Zhibiao*) (Institute of Linguistics, CASS, 2018) to elicit data. *Zhibiao* covers more than 3,700 monosyllabic words arranged based on MC phonology, where the development of a certain dialect with reference to MC can be captured. Based on *Zhibiao*, the reading material was selected and compiled to represent MC tone categories, specifically MCT1 through MCT8. While syllables in MCT1 to MCT6

were smooth syllables, those in MCT7 and MCT8 were checked syllables. A total of 72 monosyllabic syllables (eight tone categories x nine monosyllabic syllables) are listed in the Appendix. We used the following criteria to select monosyllabic syllables: (1) *All monosyllabic syllables are real words and are frequently used in MalM* (Nonsense and uncommon syllables were excluded), (2) *Further division of the initial consonant was considered, including both voiceless and voiced initials* (The development of MC tones is sensitive to the initial consonants), (3) *Simplify segmentation* (Syllables with zero-onsets were avoided), and (4) *The finals of monosyllabic syllables in the wordlist included all the following*

final types: monophthongal, diphthongal, triphthongal, and nasal finals (in Mandarin, diphthongal and triphthongal finals are termed compound finals).

Recording Procedures

Smartphone recordings have been implemented in many acoustic sociophonetic studies, and valuable results have been reported (Kim et al., 2019; Kuo, 2018; Leemann et al., 2016; B. Li et al., 2020; Stanford, 2019). As Stanford (2019) suggested, most smartphones today offer better fidelity and audio range than outdated devices; many sociolinguistic datasets gathered in the field have varying quality in their recordings, and some sociolinguistic studies even compare modern recordings with legacy ones. Guan and Li (2021) and C. Zhang et al. (2021) suggested that smartphones are reliable alternative recorders for general purposes, at least in prosodic aspects. Therefore, smartphone technology was utilized to gather data for the present study. This approach was also chosen for its efficiency in collecting recordings, which could increase the data size and expand the geographic coverage. Additionally, data collection was conducted in 2020, when the COVID-19 pandemic curtailed face-to-face recordings.

As the recordings were made remotely, we prepared an instruction manual for the participants to ensure good sound quality. The participants made the recordings in a quiet room in their homes, which yielded a natural and familiar speaking environment. The stimuli were fully randomized and

presented in Google Slides, and a different order was applied for each participant to control the intensity and avoid priming effects (Alzaidi et al., 2019; Clark, 2018). Two monosyllabic syllables were added as fillers to the beginning and end of the Google Slides to avoid order effects (Zhu, 2018). The participants were asked to read the word list once and then take a short break before re-recording the same list. They were instructed to read naturally at a normal speaking rate and upload the recordings to Google Drive.

Data Analysis

Filtering and downsampling were implemented to remove other information in the spectrum and avoid environmental sounds in the recordings. Segmentation, labeling, and annotation were carried out in Praat (Boersma & Weenink, 2021).

Many precautions were taken to ensure good, valid data for analysis, such as providing a clear instruction manual for the participants and manually checking the sample quality. Three participants' recordings were excluded because of the background noise. Therefore, data from 36 participants were analyzed, and the total number of tokens was 5,184 (72 monosyllabic syllables x 2 repetitions x 36 participants = 5,184 monosyllabic syllables). These tokens were also visually checked, and 3.9% (200 tokens) with noise or non-modal voice were removed to avoid inaccurate pitch tracking. In the end, 4,984 tokens were examined in the subsequent analysis.

Bao and Lin (2018) noted that tones in Mandarin are carried by the stable part of the final, which is the vowel segment in this study. The onset and offset of the vowel's second formant (F2) were used to identify and determine the boundaries of each vowel segment (Zheng, 2010). Fundamental frequency (F0) is the basic acoustic parameter of perceived pitch, which functions as a dimension in suprasegmental linguistic systems of tone, intonation, and stress (Lehiste, 1970). Apart from F0, the linguistic pitch is also mediated by the interaction of F0 with other major acoustic parameters, such as duration (Rose, 1989). Thus, F0 and duration were the main acoustic correlates and were measured to define the tonal features in this study. With the help of ProsodyPro (Y. Xu, 2013), a script running under Praat, we hand-inspected vocal pulse marking for errors and corrected them, then extracted acoustic parameters. We extracted F0 from 10 equidistant points and excluded 10% of the leftmost and rightmost F0 values to reduce tone-irrelevant variations.

T-value is superior because of its higher normalization index (Liu, 2007), its accordance with Chao's five-scale system (Liu, 2007; J. W. Zhang, 2014), and its wide usage in the Chinese literature on tones (J. W. Zhang, 2014). Thus, we transformed the raw F0 data into T-value using the formula outlined below (Liu, 2007; Shi & Wang, 2006) to eliminate inter-speaker variation. T-value is divided into five intervals to align with Chao's five-scale system. However, as actual production and perception do not always follow this scale system, Liu (2007)

proposed a dynamic strategy where the five intervals are not strictly divided into 0–1, 1–2, 2–3, 3–4, and 4–5, and the T-value has a dynamic range. The five intervals are, therefore, 0–1.1, 0.9–2.1, 1.9–3.1, 2.9–4.1, and 3.9–5.

$$T - value = 5 \times \frac{(\log x - \log b)}{(\log a - \log b)} \quad [1]$$

where x = observed F0 value, b = lowest F0 value, and a = highest F0 value.

We also extracted duration in milliseconds (ms). Corresponding to the exclusion criteria of F0 points, we only measured 80% of the extracted duration of each syllable. Furthermore, to minimize the individual factors, we performed duration normalization using the following normalization formula (Liu, 2007):

$$\begin{aligned} & \text{Normalized duration (Dur)} \\ &= \frac{\text{measured duration}}{\text{average measured duration of a speaker}} \end{aligned} \quad [2]$$

After normalization, we combined qualitative (auditory perception and acoustic identification) and quantitative (statistical analysis) methods to answer the research questions. In the qualitative descriptions, the acoustic realization of the syllables is presented in tone height and tone contour with reference to the spectrogram, auditory perception, and the *T-value*. While tone height is categorized into high, mid, and low based on the five-scale system (Chao, 1967), tone contour is grouped into level, level-rising, dipping, and falling. In quantitative statistics, first, to check how the citation

tones in MalM deviate from each other, we performed an extensively applied technique by deciding on the tone contour and tone height; more specifically, the F0 slope and the average F0 (T-value; L. Wang et al., 2018). Accordingly, we obtained the mean F0 by averaging eight points. Considering the definition by L. Wang et al. (2018)—the “coefficient of the linear regression line for 21 points of each tone, with the corresponding real timestamp as the independent variable” (p. 7)—we calculated the F0 slope based on the eight points. Second, we used SPSS (IBM Corp., 2021) to check whether the data were normally distributed and complied with homogeneity

of variance. As both assumptions were violated, we used non-parametric tests. After the Bonferroni correction, we set the alpha level to 0.05 for the Kruskal-Wallis test and to 0.008 for the Mann-Whitney test. Given the large sample size of this study, effect size estimates were also reported. As Table 1 displays, following Cohen’s (1988) guidance, we set three cut-off points for the non-parametric tests. While the large effect size indicates that tones are distinct in terms of F0 slope, average F0, or tonal duration, the small effect size suggests that tones tend to overlap in these parameters. The moderate effect size falls in between.

Table 1
Effect sizes used in this research

Effect size	Kruskal–Wallis tests by η^2	Mann–Whitney tests by r
Large	0.14 and above	0.5 and above
Moderate	0.06–0.139	0.3–0.49
Small	0.01–0.59	0.1–0.29

Source: based on Cohen (1988); Yamaguchi and Chiew (2019)

RESULTS

Tonal Realizations of the Citation Tones in MalM

Table 2 displays different realizations of the four tones with different frequencies. The main realization of T1 is a high-level tone, followed by high-falling and low-level-rising contours. T2 has more varied realizations, with the level-rising tone being the primary one. Furthermore, the tonal realizations of T2 include high-level, high-falling, mid-falling, and dipping tones. Regarding T3, the main realization has a mid-falling contour; 11.1% ($n=106$)

and 8.9% ($n=85$) of the occurrences have dipping and low-level-rising contours, respectively, and 4% ($n=38$) have a high-level contour. Compared with other citation tones, T4 seems to have less variation. The chief production of T4 has a high-falling tone, comprising 98.3% ($n=1801$) of the total. Only 0.3% ($n=6$) of the tokens were uttered with a high-level contour, and 1.4% ($n=26$) of the T4 tokens were produced with a high-level-rising contour.

Hence, the main realizations for T1 through T4 were a high-level tone, a low-level-rising tone, a mid-falling tone, and a

high-falling tone. Moreover, the four tones showed different variants of the tone contour. However, while the other variants of T1, T2, and T4 were marginalized, T3 frequently displayed two variants: level-rising and

dipping (besides the main realization). Furthermore, 1.6% ($n=15$) and 0.7% ($n=9$) of the T1 and T2 tokens, respectively, were realized as a high-falling tone; hence, they may be ‘T5’ tokens, as discussed previously.

Table 2
Distributions of tonal realizations of citation tones

Tone contour	Citation tones			
	Tone 1	Tone 2	Tone 3	Tone 4
High-level-rising	/	/	/	1.4 (26)
Low-level-rising	0.2 (2)	96.8 (1231)	8.9 (85)	/
Mid-falling	/	0.2 (3)	76 (724)	/
High-falling	1.6 (15)	0.7 (9)	/	98.3 (1801)
High-level	98.2 (909)	/	/	0.3 (6)
Mid-level	/	2.1 (27)	4.0 (38)	/
Mid-dipping	/	0.2 (2)	11.1 (106)	/
Total	100 (926)	100 (1272)	100 (953)	100 (1833)

Note. The value preceding the parentheses represents the occurrence percentage, while the numeral enclosed within the parenthesis denotes the count of the tokens

Source: Authors’ work

The tone contour and value of the four tones are shown in panels (a)–(d) in Figure 3. The normalized tone contours in each panel are plotted against eight equidistant points. According to Figure 3, the tone values of T1–T4’s main realizations are [44], [223], [31], and [52], respectively. Additionally, as mentioned, T3 contains two frequently occurring variants—level-rising and dipping contours—which could be expressed as [223] and [313]. Furthermore, the high-falling variants in T1 and T2 could be denoted as [52], which aligns with the tone value of the primary production of T4.

Informed by descriptive statistics as discussed above, the realizations of citation tones in MalM appear quite variable.

However, it remains unknown how the four tones differ from each other. Following L. Wang et al. (2018), the average F0 was plotted on the overall F0 slope to obtain the variability of each tone, as depicted in Figure 4.

Figure 4 portrays a scatterplot where each plotted symbol represents a token, with the horizontal axis marking the F0 slope and the vertical axis denoting the F0 height. As seen in Figure 4, while realizations of T1 and T4 are higher in F0 height, as they were mostly produced as high tones, the realizations of T2 and T3 are somewhat lower, as they were primarily uttered as middle or low tones. We ran a Kruskal-Wallis test to compare F0 height and

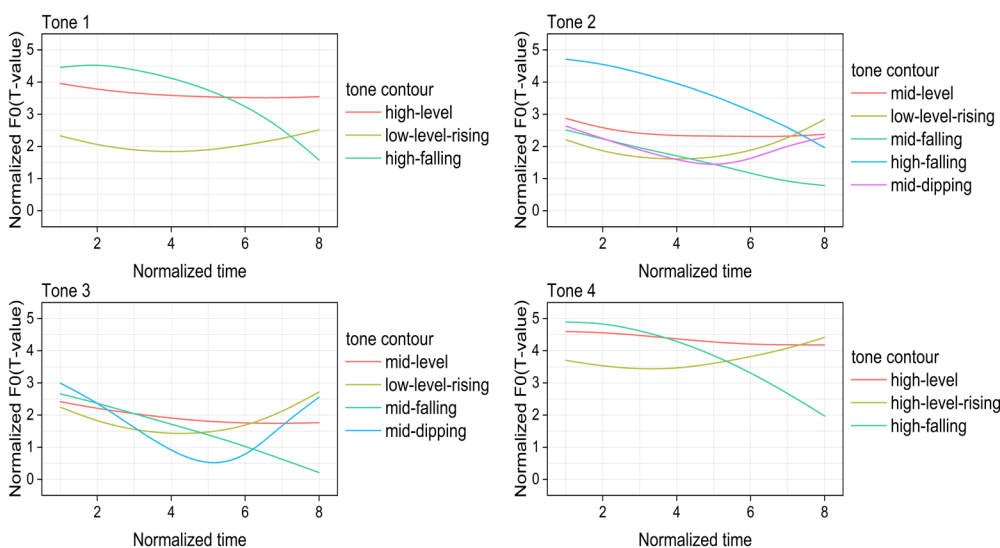


Figure 3. The tone contours of the citation tones in MalM
Source: Authors' work

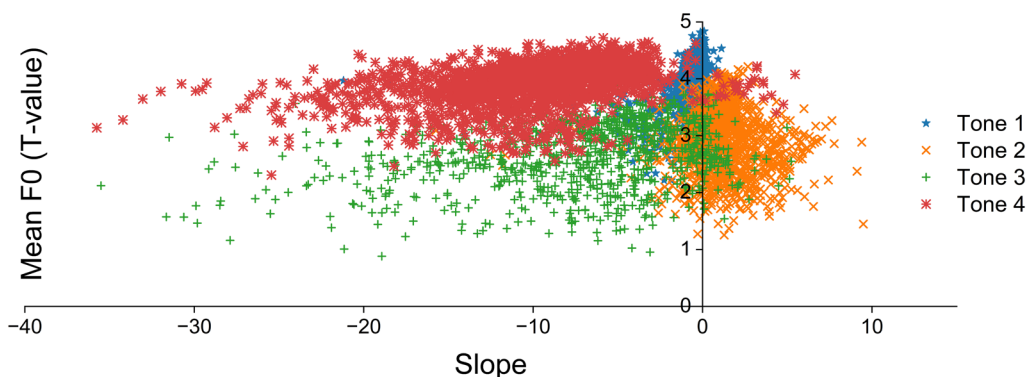


Figure 4. Scatterplot of the citation tones in MalM
Source: Authors' work

identified a significant effect of tone category on F0 height ($\chi^2(3) = 2829.90, p < 0.001, \eta^2 = 0.57$ [large effect]). Accordingly, F0 height of the tones decreased significantly across the four tones: $T4 > T1 > T2 > T3$. As Table 3 outlines, the Mann–Whitney test results suggest that F0 height significantly differs in all dimensions. However, the effect sizes reach a large effect between each pair except

between T1 and T4 and T2 and T3. The large effect size indicates that differences in F0 height are distinct in all tonal pairs except between T1 and T4 and between T2 and T3. While T1 and T4 belong to a high register, T2 and T3 belong to a fairly low register.

In Figure 4, we can see differences in F0 slope. T1 is mostly located around the vertical axis owing to its fairly flat slopes.

Table 3

Mann–Whitney test results for F0 height and effect sizes. P-values smaller than 0.008 are in bold

Tone	Z	P-value	Effect size
T1 versus T2	Z = -31.05	p < 0.001	r = 0.66 [large effect]
T1 versus T3	Z = -33.69	p < 0.001	r = 0.78 [large effect]
T1 versus T4	Z = -5.18	p < 0.001	r = 0.01 [small effect]
T2 versus T3	Z = -11.25	p < 0.001	r = 0.24 [small effect]
T2 versus T4	Z = -40.00	p < 0.001	r = 0.72 [large effect]
T3 versus T4	Z = -40.62	p < 0.001	r = 0.77 [large effect]

Source: Authors' work

As the main realization of T2 is rising, it is primarily located to the right of the vertical axis. T3 and T4, mostly in a falling contour, are located to the left of the vertical axis. Likewise, a Kruskal-Wallis test identified a significant effect of tone category on the F0 slope ($\chi^2(3) = 3368.52, p < 0.001, \eta^2 = 0.68$ [large effect]). The F0 slope of tones declined significantly across the four tones: T2 > T1 > T3 > T4. As Table 4 displays, the Mann-Whitney test revealed significant differences in the F0 slope between each

pair of tones. Nevertheless, the results of effect sizes confirm that differences in F0 slope are distinct between each pair except between T3 and T4. The small effect size in the T3 and T4 pair demonstrates that T3 and T4 are similar in tone contour. In the high register, T1 and T4 differ significantly regarding contour: T4 mostly has a falling target, and T1 chiefly has a level target. In the low register, T2 has a predominantly rising target, and T3 mostly has a falling target.

Table 4

Mann–Whitney test results for F0 slope and effect sizes. P-values smaller than 0.008 are bold

Tone	Z	P-value	Effect size
T1 versus T2	Z = -29.22	p < 0.001	r = 0.62 [large effect]
T1 versus T3	Z = -26.75	p < 0.001	r = 0.62 [large effect]
T1 versus T4	Z = -40.42	p < 0.001	r = 0.77 [large effect]
T2 versus T3	Z = -35.71	p < 0.001	r = 0.76 [large effect]
T2 versus T4	Z = -45.91	p < 0.001	r = 0.82 [large effect]
T3 versus T4	Z = -15.13	p < 0.001	r = 0.29 [small effect]

Source: Authors' work

Figure 5 presents the total duration of the four tones in MalM. The tone duration decreased across the four tones: T1 > T2 > T3 > T4. A Kruskal-Wallis test was run,

and a significant effect of tone category was identified on the tonal duration ($\chi^2(3) = 2005.77, p < 0.001, \eta^2 = 0.43$ [large effect]). It indicates that T1 has the longest duration,

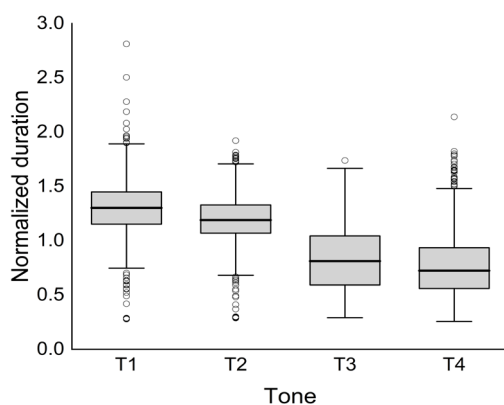


Figure 5. Boxplot for the normalized duration of the citation tones

Source: Authors' work

followed by T2, T3, and T4. Additionally, as Table 5 shows, the Mann–Whitney test revealed significant differences in the tonal duration between each pair of tones. Despite statistical significance, a small effect size was reached in the T1 and T2 and T3 and T4 pairs. The small effect size suggests that the tonal duration differences are not prominent in these two pairs.

Acoustic Realizations of ‘T5’

As suggested in prior literature, one of the salient MalM features is ‘T5’. Despite its common usage and our conformity

with terminology, some controversy may surround ‘T5’'s source and acoustic productions. Therefore, we have attempted to shed light on this important topic.

Given the debate on ‘T5’, the first step involved defining ‘T5’ and establishing inclusion criteria. First, we only included tokens as ‘T5’ if they were derived from the checked tone in MC. Although some non-checked syllables were realized similarly to ‘T5,’ the governing rules of their occurrences differed, as discussed in the literature review. Accordingly, one token of 时 “time” was excluded from the analysis. It is also because this individual instance may be due to chance. Second, we only examined and compared the ‘T5’ tokens derived from T1, T2, and T3 in Mandarin, as previous research suggests that T4 and ‘T5’ cannot be consistently distinguished. Accordingly, of all 1,249 checked tone tokens, 23 tokens from nine participants were transcribed as ‘T5’. To identify its acoustic properties, we compared ‘T5’ with T4 in terms of tone contour, tone value, duration, and voice quality.

As presented in Figure 6, while ‘T5’ was produced as a falling pitch that started

Table 5

Mann–Whitney test results for the tonal duration. P-values smaller than 0.008 are bold

Tone	Z	P-value	Effect size
T1 versus T2	$Z = -10.50$	$p < \mathbf{0.001}$	$r = 0.22$ [small effect]
T1 versus T3	$Z = -27.59$	$p < \mathbf{0.001}$	$r = 0.64$ [large effect]
T1 versus T4	$Z = -33.40$	$p < \mathbf{0.001}$	$r = 0.64$ [large effect]
T2 versus T3	$Z = -26.44$	$p < \mathbf{0.001}$	$r = 0.56$ [large effect]
T2 versus T4	$Z = -34.53$	$p < \mathbf{0.001}$	$r = 0.62$ [large effect]
T3 versus T4	$Z = -5.18$	$p < \mathbf{0.001}$	$r = 0.10$ [small effect]

Source: Authors' work

slightly lower and fell slightly earlier than T4, they are similar in tone contour and tone value. Both ‘T5’ and T4 can be denoted as [52], making it challenging to consistently distinguish them based on tone contour and tone value. Additionally, as displayed in Figure 7, the normalized duration of ‘T5’ is comparatively shorter than that of T4. Despite differences in duration, this minor difference may be difficult for listeners to perceive. Furthermore, Figure 8 shows the productions of voice quality of ‘T5’ and T4. Figure (8a), ‘T5’, the first case on the left, ends with a glottal stop (denoted by an arrow). Apart from this, ‘T5’ in this study was primarily realized with creaks (indicated by an arrow), as in the middle of Figure (8a). Like the case on the right, ‘T5’ was sometimes produced in normal voicing. As displayed in Figure (8b), T4 on the left was realized in creaks (shown by an arrow), and on the right, it was produced in normal voicing. In most cases, T4 was accompanied by creaks. In *Putonghua*, creaks often occur in the middle of T3 and at

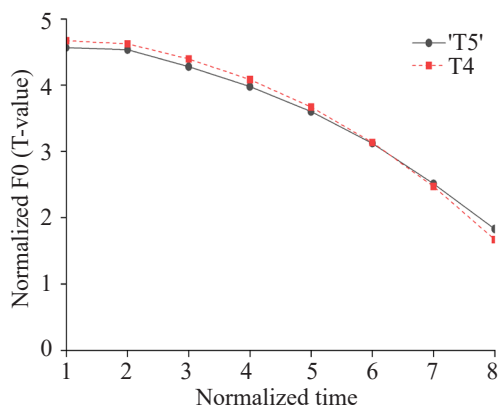


Figure 6. The tone contours of ‘T5’ and T4
Source: Authors’ work

the end of T4, as creaks are a tonal feature of “lowest-ness.”¹ in Mandarin (Kuang, 2017). Therefore, when comparing ‘T5’ and T4 in terms of voice quality, they are both largely identical and consistently indistinguishable acoustically.

As noted above, earlier work on ‘T5’ also considered the role of finals, which indicates that the source of ‘T5’ is also related to finals (Choo, 2013; Ng & Chiew, 2012). Therefore, we investigated the final types of ‘T5’. While 91.3% ($n=21$) of ‘T5’ consisted of monophthongal finals, only 8.7% ($n=2$) comprised diphthongal finals. This finding is consistent with the results of Choo (2013). Additionally, C. Y. Chen (1983) and T. Huang (2016a) demonstrated that ‘T5’ emerged mostly from T1 in both SigM and MalM, followed by T2 and T3. We revisited this issue and found that 65.2% ($n=15$) of ‘T5’ emerged from T1, 34.8%

1 Creaks mostly occur in the lowest T3 and can be seen in the low-pitch target of T4.

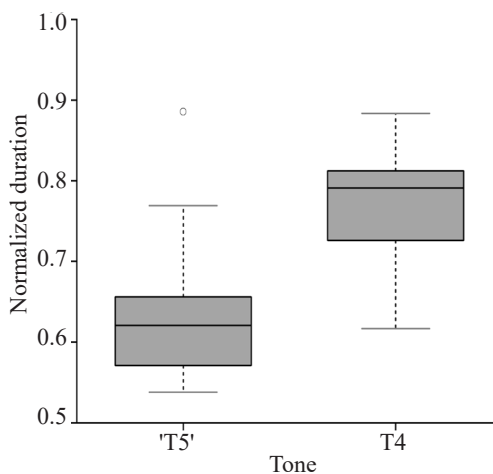


Figure 7. Boxplot of the normalized durations of ‘T5’ and T4
Source: Authors’ work

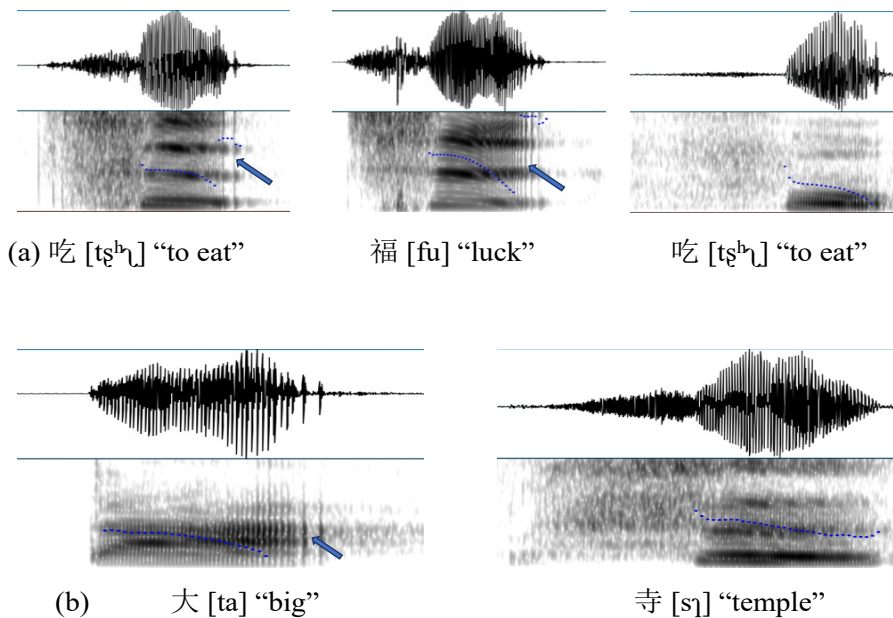


Figure 8. Examples of the spectrograms of ‘T5’ (a) and T4 (b)
Source: Author’s work

($n=8$) of ‘T5’ emerged from T2, and none of ‘T5’ emerged from T3. Accordingly, our results align with those of C. Y. Chen (1983) and T. Huang (2016a). More tokens of Mandarin T1 and T2 were subject to a change to ‘T5’.

DISCUSSION

Our first concern is understanding the tonal properties of the citation tones in MalM. We found that the tone contour of the four citation tones varied within and across speakers. The acoustic and quantitative analyses suggest that the four tones in MalM contrast with each other in terms of F0 height, F0 slope, and tone duration and that the main tonal realizations are phonetic, as in [44, 223, 31, 52], and opposed to [55, 35, 214, 51] in *Putonghua*. Among the

four citation tones in MalM, T3 is the most difficult to characterize. Unlike the other three tones, the central realization of T3 was inconsistent across speakers. In this study, two speakers differed from the rest of the participants, as T3 was predominantly produced as a dipping contour by these two speakers. Furthermore, this study is the first to report that a dipping tone contour is still the basic contour in MalM. It is expected because Mandarin teaching in Malaysia adheres to *Putonghua* standards, and the dipping T3 is merely observed in deliberate, emphatic, or yes-no questions (Fon & Hsu, 2007). Aside from a dipping tone, T3 was also produced as mid-falling and low-level-rising contours, with a mid-falling contour as the main acoustic realization in MalM. As demonstrated earlier, in *Putonghua*, sandhi

T3 contains the falling and rising contours. Thus, the T3 sandhi rule might explain why T3 has these two variants in MalM. It also closely reflects Sanders's (2008) description of the tone contour of T3 in TwM: T3 occurs more frequently as a falling contour in natural speech than as the citation allotone. Based on the findings above, the falling contour may become the T3 basic contour in TwM as the new generation mainly perceives a falling contour for T3 (Sanders, 2008).

K. Huang (2017) suggested that "another way to explain...tonal variations is to treat them as a kind of sound change" (p. 301). Compared to *Putonghua*, T2 and T3 are considered contour reductions in MalM, as they are produced as level-rising and falling contours. In contrast, they are expressed as rising and dipping contours in *Putonghua*. Pittayaporn (2007) indicated that a dynamic tone is more prone to evolving into a static one than moving in the opposite direction. Therefore, this variation implies that the F0 excursion of the contour tones tends to decrease, resulting in flattened contours in MalM. Correspondingly, T. Huang (2016b) observed contour leveling in T2 in MalM both acoustic and perceptually, suggesting that T2 may eventually be neutralized to a level tone. Likewise, T2 and T3 were sometimes produced as a level contour, which may predict the directionality of tonal change in MalM. Tonal reduction is not confined to MalM; it is also commonly found in SigM and TwM (K. Huang, 2017; Lee, 2010). However, our data and analysis are insufficient to draw a firm conclusion

about this prevalence, but it would be worth examining in future research.

Additionally, based on the findings, we can answer the second research question. First, with reference to sources of 'T5', findings from previous studies and the current study cannot provide a conclusive answer, as final types and tone types may also play an active role. Second, besides sources, 'T5' is largely identical to T4 in tonal properties, indicating the lack of distinctive phonemic contrast between these two tones. Despite the significant difference in duration between them, this small quality of difference may not be perceived by listeners. Therefore, this may cause difficulty in distinguishing 'T5' syllables from T4 syllables. Third, 'T5' varies across individuals and may not occur consistently in a single person's pronunciation. For instance, as a salient feature of 'T5', the glottal stop is unstable and thus an optional element. Accordingly, this evidence seems to support the argument that 'T5' is not systematic. Hence, based on the current study's findings, there is inadequate evidence to claim that 'T5' is a new tone category in MalM. Instead, 'T5' is a variant tone. In line with this view, C. Y. Chen (1983) stated that "it is sometimes referred to as 'the short-falling pitch' in preference to 'the fifth tone' as the latter seems to suggest more strongly a completely detached identity" (p. 97). It is also supported by Lee (2010), who stated that his study on SigM focused purely on the four tones given the declining use of 'T5' and the unreliable discrimination between

T4 and ‘T5’, even for speakers who exhibit this contrast. Our findings indicate a need for more research on ‘T5’, especially through a perceptual lens.

CONCLUSION

This study examined the tonal properties of the four citation tones and ‘T5’. Similar to previous research, four citation tones, T1 to T4, are observed in MalM, and the four tones contrast with each other. However, different variant tones occur in each of the four tones, among which T3 is the most difficult to characterize. Like the neighboring varieties of SigM and TwM, T2 and T3 are undergoing tonal reduction in MalM. Additionally, some similarities and differences in ‘T5’ exist between MalM and SigM. The tone contour, tone value, and voice quality of ‘T5’ in MalM differ from those in SigM. However, similar to SigM, our research confirmed that the occurrence of ‘T5’ in MalM is not only related to the MC-checked tone but also associated with final types and tone categories. More importantly, the acoustic realizations and findings of ‘T5’ answer our second question that ‘T5’ is insufficient to be deemed a new tone category in MalM.

This article has clear implications for the GC paradigm. On the one hand, this research pushes forward the empirical results on Mandarin varieties from the perspective of GC, increasing the empirical rigor of this theoretical paradigm; on the other hand, the focus, as well as the outcome, has, as a result, shifted from a conventional emphasis on accuracy in language usage to

a more positive exploration of the features of MalM in a multilingual environment. This echoes GC’s call for a conceptual shift and a pluricentric way to explore Mandarin varieties. In addition, the findings complement the previous research by focusing on the productions of the young generation and provide insights into the debates of Mandarin ‘T5’ categorization in prior studies from a diachronic perspective.

The findings of this study can inform Mandarin pedagogy in Malaysia to emphasize awareness of and exposure to the diversity of Mandarin varieties rather than the “correctness” of pronunciation. For example, the primary tone contour of T3 in MalM is mid-falling rather than mid-dipping. The mid-falling T3, however, does not comprise intelligibility, as the mid-dipping contour merely occurs in deliberate and emphatic speech. Hence, it is not necessary to produce a T3 dipping tone in the same way as a speaker of *Putonghua* would. Consequently, it is important to consider teaching Mandarin pronunciation in Malaysia more carefully rather than rigidly adhering to a native model.

There are several potential improvements for future studies, such as including more participants from different age groups and genders to enhance the generalizability and representation of the research results. While smartphone recording offers convenience, it falls short of preserving the original voice quality and may compromise the reliability of the acoustic analysis of segmental features. Therefore, Linear PCM, an uncompressed

audio recording format, is essential for accurate acoustic studies of voice quality. In addition, given the use of single-word lists as stimuli and the limited number of ‘T5’ tokens, results may not reflect the full picture of ‘T5’. Future studies could also ascertain the existence of ‘T5’ by using minimal pairs as stimuli and investigating the tonal phenomenon in polysyllabic words and connected speech.

ACKNOWLEDGMENTS

This study was supported by the Universiti Malaya Faculty of Languages and Linguistics Research Grant (UMFLRG), project number UMG013N-2023. The authors are indebted to the participants who consented to participate in the data collection and to the reviewers for their valuable comments.

REFERENCES

- Alzaidi, M. S., Xu, Y., & Xu, A. Q. (2019). Prosodic encoding of focus in Hijazi Arabic. *Speech Communication, 106*, 127-149. <https://doi.org/10.1016/j.specom.2018.12.006>
- Bao, H. Q., & Lin, M. C. (2018). *Shiyan yuyinxue gaiyao* 实验语音学概要 [The outline of experimental phonetics]. Beijing University Press.
- Boersma, P., & Weenink, D. (2021). *Praat: Doing phonetics by computer* (Version 6.2.04) [Computer program]. <http://www.praat.org/>
- Chao, Y. R. (1967). *Mandarin primer: An intensive course in spoken Chinese*. Harvard University Press.
- Chao, Y. R. (1968). *A grammar of spoken Chinese*. University of California Press.
- Chen, C. Y. (1981). Bendi Huayu li shengdiao de wenti 本地华语里声调的问题 [Tones in Singapore Mandarin]. *Yuwen, 7*, 38-42.
- Chen, C. Y. (1983). A fifth tone in the Mandarin spoken in Singapore. *Journal of Chinese Linguistics, 11*(1), 92-119.
- Chen, J. Y. (2007). Malaixiya Huayu diaozhi de yanbian jian yu Putonghua bijiao 马来西亚华语调值的演变兼与普通话比较 [The evolution of the tonal value of Malaysia Mandarin and its comparison to Putonghua]. *Xiandai Yuwen, 5*, 34-35.
- Chen, M. Y. (2000). *Tone sandhi: Patterns across Chinese dialects*. Cambridge University Press. <https://doi.org/10.1017/CBO9780511486364>
- Chiung, W. V. (1999, October 28-31). *Taiwanese and Taiwan Mandarin tones: Tonal drift?* [Paper presentation]. 32nd International Conference on Sino-Tibetan Language & Linguistics, Illinois, United States.
- Choo, Y. (2013, June 21-23). Fangyan ganrao yu yuyan jiechu de juxian-yi xinjiapo huayu diwusheng wei ge'an 方言干扰与语言接触的局限—以新加坡华语第五声为个案 [Constraints of dialect interference in language contact—a case study of the fifth tone in Singapore Mandarin] [Paper presentation]. The 25th North American Conference on Chinese Linguistics (NACCL-25). Michigan, United States.
- Chua, C. L. (2003). *The emergence of Singapore Mandarin: A case study of language contact* (Publication No. 3113654) [Doctoral dissertation, The University of Wisconsin]. The University of Wisconsin - Madison ProQuest Dissertations & Theses.
- Clark, L. (2018). Priming as a motivating factor in sociophonetic variation and change. *Topics in Cognitive Science, 10*(4), 729-744. <https://doi.org/10.1111/tops.12338>
- Cohen, J. (1988). *Statistical power analysis for the behavioral sciences* (2nd ed.). Erlbaum.

- Deng, D., Feng, S., & Lv, S. (2006). Putonghua yu Taiwan guoyu shengdiao de duibi fenxi 普通话与台湾国语的对比分析 [The contrast on tone between Putonghua and Taiwan Mandarin]. *Shengxue Xuebao [ACTA Acustica]*, 31(6), 536-541. <https://doi.org/10.15949/j.cnki.0371-0025.2006.06.011>
- Diao, Y. B. (2018). Yuyan anquan shijiao xia de quanqiu huayu jiqi yanjiu 语言安全视角下的全球华语及其研究 [Global Chinese and its research in the perspective of language security]. *Yunnan Shifan Daxue Xuebao (Zhaxue Shehui Kexue Ban)*, 50(3), 25-34.
- Duanmu, S. (2007). *The phonology of standard Chinese*. Oxford University Press. <https://doi.org/10.1093/oso/9780199215782.001.0001>
- Fon, J., & Chiang, W. Y. (1999). What does Chao have to say about tones? A case study of Taiwan Mandarin. *Journal of Chinese Linguistics*, 27(1), 13-37.
- Fon, J., & Hsu, H. J. (2007). Positional and phonotactic effects on the realization of dipping tones in Taiwan Mandarin. In C. Gussenhoven & T. Riad (Eds.), *Tones and Tunes: Experimental studies in word and sentence prosody* (pp. 239-269). Mouton de Gruyter. <https://doi.org/10.1515/9783110207576.2.239>
- Fon, J., Chiang, W. Y., & Cheung, H. (2004). Production and perception of the two dipping tones (tone 2 and tone 3) in Taiwan Mandarin. *Journal of Chinese Linguistics*, 32(2), 249-281.
- Goh, Y. S., & Xu, X. Y. (2003). Yuyan yiwei guocheng zhong de fangyan yijie bianyi 语言易位过程中的方言移借变异 [The variation of dialectal borrowing in language shift]. In J. A. Zou & R. J. You (Eds.), *Yuyan jiechu lunji* (pp. 395-412). Shanghai Educational Publishing House.
- Guan, Y., & Li, B. (2021). Usability and practicality of speech recording by mobile phones for phonetic analysis. *12th International Symposium on Chinese Spoken Language Processing*, 24-26. <https://doi.org/10.1109/ISCSLP49672.2021.9362082>
- Guo, X. (2022). *Quanqiu huayu yufa: Malaixiya juan 全球华语语法: 马来西亚卷* [Global variation of Chinese grammar: Malaysia volume]. The Commercial Press.
- Huang, K. (2017). From pitch contour variation to tone change: An analysis of the phonological representations of the tones in Taiwan Mandarin. *International Journal of Chinese Linguistics*, 4(2), 273-307. <https://doi.org/10.1075/ijchl.16016.hua>
- Huang, T. (2016a). *On the "fifth tone" of Malaysian Mandarin*. https://www.academia.edu/36168817/On_the_Fifth_tone_in_Malaysian_Mandarin
- Huang, T. (2016b). *Topics in Malaysian Mandarin phonetics and phonology* [Doctoral dissertation, National Tsing Hua University]. National Digital Library of Theses and Dissertations in Taiwan. <https://hdl.handle.net/11296/393u9b>
- IBM Corp. (2017). *IBM SPSS Statistics for Macintosh (Version 25.0)*. Armonk, NY.
- Institute of Linguistics, CASS. (2018). *Fangyan diaocha zibiao 方言调查字表* [Questionnaire of Chinese characters for dialect survey] (2nd ed.). The Commercial Press.
- Jacobi, I. (2009). On variation and change in diphthongs and long vowels of spoken Dutch. [Doctoral dissertation, University of Amsterdam]. UvA-DARE (Digital Academic Repository). <https://hdl.handle.net/11245/1.316951>
- Khoo, K. U. (2013). Lun "huayu" yu malaixiya huayu yanjiu 论“华语”与马来西亚华语研究 [On "huayu" and its research]. In K. U. Khoo (Ed.), *Malaixiya huayu yanjiu lunji* (pp. 240-257). Huashe Yanjiu Zhongxin.
- Khoo, K. U. (2017). Malaysian Mandarin variation with regard to Mandarin globalization trend: Issues on language standardization. *International Journal of the Sociology of Language*, 2017(244), 65-86. <https://doi.org/10.1515/ijsl-2016-0057>
- Kim, C., Reddy, S., Stanford, J. N., Wyschogrod, E., & Grieve, J. (2019). Bring on the crowd! Using online audio crowd-sourcing for large-

- scale new England dialectology and acoustic sociophonetics. *American Speech*, 94(2), 151-194. <https://doi.org/10.1215/00031283-7251252>
- Kuang, J.-J. (2017). Creaky voice as a function of tone categories and prosodic boundaries. *Interspeech*, 3216-3220. <https://doi.org/10.21437/Interspeech.2017-1578>
- Kuo, J. (2018). A large-scale smartphone-based sociophonetic study of Taiwan Mandarin. *Asia-Pacific Language Variation*, 4(2), 197-230. <https://doi.org/10.1075/aplv.18005.kuo>
- Lee, L. (2010). The tone system of Singapore Mandarin. In L. E. Clements & C. M. Liu (Eds.), *Proceedings of the 22nd North American Conference on Chinese Linguistics (NACCL-22) & the 18th International Conference on Chinese Linguistics (IACL-18)*; pp. 345-362). Harvard University.
- Leemann, A., Kolly, M.-J., Purves, R., Britain, D., & Glaser, E. (2016). Crowdsourcing language change with smartphone applications. *PLOS ONE*, 11(1), Article e0143060. <https://doi.org/10.1371/journal.pone.0143060>
- Lehiste, I. (1970). *Suprasegmentals*. MIT Press.
- Li, A., Xiong, Z., & Wang, X. (2006). Contrastive study on tonal patterns between accented and standard Chinese. In Q. Huo, B. Ma, E. S. Chng, & H. Li (Eds.), *Proceedings of the 5th International Symposium on Chinese Spoken Language Processing* (pp. 157-168). Springer.
- Li, B., Guan, Y., & Chen, S. (2020). Carryover effects on tones in Hong Kong Cantonese. *10th International Conference on Speech Prosody 2020*, 489-493. <https://doi.org/10.21437/SpeechProsody.2020-100>
- Li, Y. (2010). *Quanqiu huayu cidian 全球华语词典 [A dictionary of Global Huayu]*. The Commercial Press.
- Li, Y. (2016). *Quanqiu huayu dacidian 全球华语大词典 [A comprehensive dictionary of Global Huayu]*. The Commercial Press.
- Liu, L. (2007). *Jianghuai fangyan shengdiao shiyan yanjiu he zhedu fenxi 江淮方言声调实验研究和折度分析 [An experimental study and deflection analysis of tone systems in Jianghuai dialects]*. Bashu Publishing House.
- Ma, J. L. (2002). *Hanyu tonglun 汉语通论 [The general theory in Chinese]*. Jiangsu Classics Publishing House.
- Ng, Y. Y., & Chiew, P. P. (2012). The origin of the fifth tone in Singapore Mandarin. In *Proceedings of the URECA@NTU 2011-2012*. Nanyang Technology University. <http://hdl.handle.net/10356/67854>
- Pillai, S., Don, Z. M., Knowles, G., & Tang, J. (2010). Malaysian English: An instrumental analysis of vowel contrast. *World Englishes*, 29(2), 159-172. <https://doi.org/10.1111/j.1467-971X.2010.01636.x>
- Pittayaporn, P. (2007). Directionality of tone change. *16th International Congress of Phonetic Sciences*. <http://www.icphs2007.de/conference/Papers/1516/1516.pdf>
- Rose, P. J. (1989). On the non-equivalence of fundamental frequency and pitch in tonal description. In D. Bradley, E. J. A. Henderson, & M. Mazaudon (Eds.), *Prosodic analysis and Asian linguistics: To honour R. K. Sprigg* (pp. 55-82). Pacific Linguistics.
- Sanders, R. (2008). Tonetic sound change in Taiwan Mandarin: The case of Tone 2 and Tone 3 citation contours. In M. K. M. Chan & H. Kang (Eds.), *20th North American Conference on Chinese Linguistics (NACCL-20)*; pp. 87-107). The Ohio State University.
- Shi, F., & Deng, D. (2006). Putonghua yu Taiwan Guoyu de yuyin duibi 普通话与台湾国语的语音对比 [A phonetic contrast of Putonghua and Taiwan Mandarin]. In D.-A. Ho, S. Cheung, W. Y. Pan, & F. X. Wu (Eds.), *Shanggao shuichang: Ding Bangxin xiansheng qizhi shouqing lunwenji* (pp. 371-393). Institute of Linguistics, Academia Sinica.

- Shi, F., & Wang, P. (2006). Beijinghua danziyin shengdiao de fenzu tongji fenxi 北京话单字音声调的分组统计分析 [A statistical analysis of tone groups in Beijing Mandarin]. *Dangdai Yuyanxue*, 8(4), 324-333; 379-380. <https://doi.org/10.3969/j.issn.1007-8274.2006.04.003>
- Stanford, J. N. (2019). *New England English large-scale acoustic sociophonetics and dialectology*. Oxford University Press. <https://doi.org/10.1093/oso/9780190625658.001.0001>
- Wang, L., Gussenhoven, C., & Liang, J. (2018). How to pronounce a low tone: A lesson from Kaifeng Mandarin. *Journal of the International Phonetic Association*, 50(2), 199-219. <https://doi.org/10.1017/S0025100318000270>
- Wang, X. M. (2019). “Gu, Fang, Pu, Wai”—lun quanqiu huayu yanjiu de sige shijiao “古、方、普、外”—论全球华语研究的四个视角 [On the four perspectives of Global Chinese studies: classical Chinese, dialects, Putonghua and foreign languages]. *Global Chinese*, 5(1), 45-57. <https://doi.org/10.1515/glochi-2019-0003>
- Wang, X. M. (2020). Cong Malaixiya huayu kan quanqiu huayu de kuajing guihua 从马来西亚华语看全球华语的跨境规划 [On language planning of Global Chinese based on Malaysian Mandarin]. *Global Chinese*, 6(1), 165-177. <https://doi.org/10.1515/glochi-2020-0008>
- Xu, D. M., & Wang, X. M. (2009). Quanqiu huayu shequ shuolue 全球华语社区说略 [Research on Global Chinese Community]. *Jilin Daxue Shehui Kexue Xuebao*, 49(2), 132-137.
- Xu, X. Y., & Goh, Y.-S. (2001). Xinjiapo huayu “diwusheng” yishi guochengzhong de “cihui kuosan” xianxiang 新加坡华语“第五声”遗失过程中的“词汇扩散”现象 [The lexical diffusion in the loss of the “fifth tone” in Singapore Mandarin]. *Proceedings of the 5th Phonetic Conference of China*. Tsinghua University Press.
- Xu, Y. (1997). Contextual tonal variations in Mandarin. *Journal of Phonetics*, 25, 61-83. <https://doi.org/10.1006/jpho.1996.0034>
- Xu, Y. (2013). ProsodyPro: A tool for large-scale systematic prosody analysis. *Tools and Resources for the Analysis of Speech Prosody (TRASP 2013)*. Aix-en-Provence, France.
- Yamaguchi, T., & Chiew, P. S. (2019). Is there conflation? An acoustic analysis of vowels in Japanese English. *Asian Englishes*, 22(1), 35-51. <https://doi.org/10.1080/13488678.2018.1563665>
- Yeoh, Y. Y. (2019, October 21). *Malaixiya huayu qusheng yanjiu* 马来西亚华语去声研究 [On Qusheng in Malaysian Mandarin]. Malaixiya Huayu yanjiu luntan [Forum on Malaysian Mandarin Studies], Sepang, Malaysia.
- Zhang, C., Jepson, K., Lohfink, G., & Arvaniti, A. (2021). Comparing acoustic analyses of speech data collected remotely. *The Journal of the Acoustical Society of America*, 149, 3910-2916. <https://doi.org/10.1121/10.0005132>
- Zhang, J. W. (2014). *A sociophonetic study on tonal variation of the Wúxī and Shànghǎi dialects*. Netherlands Graduate School of Linguistics / Landelijke (LOT).
- Zheng, Y. L. (2010, May 28-30). *Shilun yuyin shengxue canshu* 试论语音声学参数 [On acoustic parameters in Phonetics]. *Dijiujie Zhongguo yuyinxue xueshu huiyi*, Tianjin, China.
- Zhu, X. N. (2018). *Yuyin xue* 语音学 [Phonetics] (3rd ed.). The Commercial Press.

APPENDIX

Target words in the word list

MC tones	Mandarin word	Phonetic form	Glossary	MC tones	Mandarin word	Phonetic form	Glossary
MCT1	低	ti	low	MCT2	扶	fu	help
	天	t ^h ian	sky		时	ʃɿ	time
	猪	tʃu	pig		茶	tʃ ^h a	tea
	车	tʃ ^h ɿ	vehicle		逃	t ^h au	escape
	高	kau	tall		鞋	ɕie	shoes
	花	xua	flower		桥	tɕ ^h iau	bridge
	伤	ʃaŋ	injury		房	faŋ	house
	浇	teiau	water		田	t ^h ian	field
	灯	tɿŋ	lamp	陈	tʃ ^h ən	surname	
MCT3	比	pi	compare	MCT4	父	fu	father
	打	ta	hit		社	ʃɿ	bureau
	古	ku	ancient		米	mi	rice
	粉	fən	pink		件	tɕian	piece
	展	tʃan	exhibit		动	tuŋ	move
	展	tɿŋ	wait		满	man	full
	口	k ^h ou	mouth		老	lau	old
	火	xuo	fire		坐	tsuo	to sit
	水	ʃuei	water	罪	tsuei	crime	
MCT5	注	tʃu	infuse	MCT6	大	ta	big
	怕	p ^h a	afraid		树	ʃu	tree
	替	t ^h i	replace		寺	sɿ	temple
	帐	tʃaŋ	curtain		阵	tʃən	position
	唱	tʃ ^h aŋ	sing		病	piŋ	disease
	汉	xan	a dynasty of China		共	kuŋ	together
	盖	kai	cover		害	xai	harmful
	化	xua	change		夏	ɕia	summer
	跳	t ^h iau	jump	队	tuei	team	
MCT7	失	ʃɿ	lose	MCT8	罚	fa	punish
	吃	tʃ ^h ɿ	eat		十	ʃɿ	ten
	福	fu	blessing		笛	ti	whistle
	刻	k ^h ɿ	to carve		舌	ʃɿ	tongue
	笔	p ^h i	pen		俗	su	custom
	割	k ^h ɿ	cut		达	ta	arrive
	黑	xei	black		六	liou	six
	百	pai	hundred		白	pai	white
	铁	tie	iron	贼	tsei	thief	

The Storytellers: In-depth Interviews with Malaysian Documentary Filmmakers

Raja Rodziah Raja Zainal Hassan^{1*}, Huey Pyng Tan² and Eu Choong Chong¹

¹*Department of Media, Faculty of Creative Industries, Universiti Tunku Abdul Rahman, Jalan Sungai Long, Bandar Sungai Long, 43000 Kajang, Selangor, Malaysia*

²*Department of Journalism, Faculty of Arts and Social Science, Universiti Tunku Abdul Rahman, Jalan Universiti, Bandar Barat, 31900 Kampar, Perak, Malaysia*

ABSTRACT

The study is based on a series of interviews conducted with the Malaysian documentary filmmakers Lau Kek-Huat, Amir Muhammad, Fahmi Reza, Harun Rahman, and Lara Ariffin between 2018 and 2021. The interviews aimed to probe into the documentary filmmaking process and investigate the underlying factors that motivate filmmakers to compose films about the Malaysian pre- and post-independence period. In the documentary, the filmmakers took the audience on a nostalgic and self-discovery journey. The documentary focused on people's history, often overlooked in official history material. The storyteller's role is to preserve the narrative and emphasize the value of people's history in bridging the gaps within the nation's history. Films have become an important source of meaning, contestation, and negotiation by providing an alternative history to their audience. The documentary probes the question of what it truly means to be Malaysian. The study utilizes the concept of the mediation of memory to comprehend the complex interaction between cultural memory and identity. The study employed thematic analysis as a systematic approach to examine interview data. The study explores cultural memory dimensions, focusing on film production, memory, and identity. The interviews revealed that the filmmaker's role as a storyteller is critical for preserving and highlighting people's history, as well as educating the audience, particularly Malaysia's younger generation, to ensure that history is not lost and forgotten.

ARTICLE INFO

Article history:

Received: 25 September 2023

Accepted: 07 June 2024

Published: 19 November 2024

DOI: <https://doi.org/10.47836/pjssh.32.4.08>

E-mail addresses:

rodziah@utar.edu.my (Raja Rodziah Raja Zainal Hassan)

tanhp@utar.edu.my (Huey Pyng Tan)

chongec@utar.edu.my (Eu Choong Chong)

*Corresponding author

Keywords: In-depth interviews, Malaysian documentary filmmakers, storytellers

INTRODUCTION

Storytellers play a pivotal role in entertaining, instilling cultural values, and reinforcing social norms within their audience.

Filmmakers, who consider themselves storytellers, craft immersive worlds through their camera lenses. This is particularly evident in documentary filmmaking, which focuses on spotlighting everyday life issues. Documentary storytelling involves extensive research into a subject's narrative and creatively using narrative techniques such as structure, character, questions, point of view, and tone to articulate the truth effectively (Bernard, 2016).

Documentaries cover a wide range of intriguing subjects, including biographies, politics, societal issues, and history. In the past, documentary subjects were often viewed as uninteresting due to the predominantly factual reporting style. However, contemporary documentary filmmakers have revitalized the genre by employing creative narrative techniques to captivate audiences. Bell (2011) notes a rising interest in historical documentaries. Channels like National Geographic, History, and Discovery have successfully carved out strong brand identities in this market.

This research explores the creative processes in producing historical documentaries based on interviews with Malaysian filmmakers Lau Kek-Huat, Amir Muhammad, Fahmi Reza, Harun Rahman, and Lara Ariffin. Their films, portraying events leading up to Malaysia's independence, have received local and international acclaim. They present an approach to people's history that resonates deeply with Malaysia's multiracial society, offering an alternative perspective on Malaysian history.

The official history of Malaysia often emphasizes the positive aspects, particularly highlighting the British colonial contribution to Malaya and the significant roles of the country's elite leaders in its unification. The narrative of independence is usually depicted as a result of successful negotiations between the nation's leading political figures and the British authorities, with minimal emphasis on the local population's struggles and opposition against the British. Post-independence, the ruling government has continued to produce documentary films that predominantly convey governmental messages.

The privatization of Malaysian broadcast stations in the 1980s led to a shift in documentary production, aligning more closely with government guidelines. This era saw the emergence of commercial films that supported and promoted the government's ideology, often glorifying the role of British colonial rule and the contributions of elite leaders in the country's development. Unfortunately, this resulted in a single dominant narrative, overshadowing the stories of the common people and thereby risking the diminishment of people's history in the societal consciousness.

According to Ali (2018), people's history emphasizes the roles and contributions of individuals or groups from the lower social strata, whose part in the country's development and historical narrative is often neglected or dismissed. Disregarding their historical significance can weaken these groups' sense of national belonging. A documentary film focusing on people's

history could fill this societal gap. Ali (2018) asserts that history is crucial in aiding individuals and societies in self-recognition.

The filmmakers in this study delve into historical subjects, offering a unique interpretation of Malaysian history. Their primary aim is to bring forward individual voices and uncover untold stories, thereby enriching the historical narrative. The study at hand seeks to understand the motivations driving their filmmaking process. It aims to delve into the filmmakers' thoughts, experiences, and roles as storytellers. Central to this study is the concept of memory mediation, which involves reconstructing historical narratives through modern media technologies like film. Employing the theory of cultural memory, the study aims to explore the interplay between memory and identity.

The Development of the Malaysian Documentary Films

The genesis of documentary film production in Malaysia dates back to 1946, coinciding with the establishment of the Malayan Film Unit (MFU) during British colonization. The name “Malaya” was officially changed to “Malaysia” on September 16, 1963. Within Malaysian cinema, documentary films have often highlighted the nation-building efforts of ethnic leaders and the political contributions of the upper class. The MFU was instrumental in unifying Malaysians of diverse ethnic backgrounds, promoting a Malayan identity to counter the threat of Communist ideology (Hee, 2017). Notable MFU documentary films,

such as *Abu Nawas*—the first documentary produced in Kuala Lumpur—focused on the British efforts to combat communism in Malaya. Post-independence, the MFU evolved into the National Film Department of Malaysia (FINAS) in 1963. FINAS has been pivotal in developing the Malaysian film industry, offering funding, training, and facilities to local filmmakers. Documentary films produced by FINAS continue to reinforce the official history and support the government’s agenda. The industry saw further advancement in the 1980s and 1990s with the emergence of television and private television stations, taking documentary film production to a commercial scale. The Malaysian documentary industry during this period heavily focused on human-interest subjects, often infusing sensational elements such as superstition and horror to enhance program ratings (Yasin, 2006).

The advent of the new millennium and the rise of affordable digital filmmaking technology marked a turning point for Malaysian independent filmmakers, who began producing documentaries for niche Internet audiences. These independent films are typically self-financed, shot without permits, and not intended for mainstream distribution, allowing greater freedom in creative, social, and political expression (Khoo, 2008). The increase in independent filmmakers has spurred a wave of creative works within the film industry, including bold and innovative documentaries in both techniques and narratives. This burgeoning independent film scene has drawn attention to historical films that emphasize people’s history.

This shift has influenced commercial documentary filmmaking, with several filmmakers now producing historical documentaries focusing on people's history. These narratives highlight the experiences of individuals from various racial and cultural backgrounds, including descendants of migrants who came to Malaya during British rule. The documentaries explore the deep emotional connections these individuals have with Malaya, revealing the compelling reasons behind their active participation in the struggle for national independence. Documentaries engage audiences through logic and emotional and sensory experiences, aiding in understanding our identities (Bondebjerg, 2014). These documentaries offer windows into the past, enabling Malaysians to reconnect with their heritage and cultivate a stronger sense of belonging.

Documentary Films as an Alternative and People's History

Documentaries have been closely associated with depicting history from the earliest days of filmmaking, and they are known for their ability to accurately represent events (Ogunleye, 2005). As Weinstein (2016) posits, a film can offer an unparalleled portrayal, providing insights, raising questions, and prompting further research, even when it only touches the surface of historical reality. Documentaries exploring people's history are particularly significant as they present alternative viewpoints, introducing audiences to perspectives that might challenge the established narrative.

However, such alternative historical accounts are sometimes seen as contentious, potentially disrupting national unity.

In Malaysia, the prevailing government ideology underscores the role of the ruling elite and the *Barisan Nasional* (BN) coalition in achieving the nation's independence and unification. Recognizing the importance of history in fostering national unity and aiding nation-building (Ahmad et al., 2010), Malaysian policymakers have leveraged historical narratives for these purposes. Television programs like '*Hari Ini Dalam Sejarah*,' produced by Radio Television Malaysia (RTM)—the national public broadcaster—use historical events in media content to promote peace and harmony within the multi-ethnic society (Lee & Mohd Safar, 2016). This strategy is part of the government's broader effort to reinforce the official Malaysian narrative through mass media.

However, this emphasis on government narratives has spurred the growth of films focusing on grassroots movements and collective voices. The documentary format, in particular, has become a vehicle for presenting alternative historical narratives. According to Rosentone (1992), historical films are not windows into the past but constructions of the past. In this process of historical reconstruction, the storyteller's role is crucial, as their perspective significantly influences the narrative. Therefore, understanding the mediation of historical narratives through documentaries is critical.

Mediation of Memory

“Mediated memories” describe the media’s role in bridging the past and present (van Dijck, 2004). Documentaries transport audiences back to the era of British rule in Malaya, capturing the country’s history of resistance to foreign domination. These films share firsthand experiences and recollections of those who lived through the conflict. As individuals interpret their own lives, documentary films allow audiences to re-live these experiences, gaining a new perspective on history. The mediation of memory suggests that the past is accessible only through private and publicly articulated memories presented from the present perspective (Drake, 2003).

The phrase “We are unaware that we are but an echo,” by Halbwachs (1980) highlights how collective memory shapes individual recollection. Halbwachs coined the term “collective memory” and explained that it survives and gains strength from a community of individuals whose memories support each other. His foundational work has greatly influenced the study of cultural memory. This study resonates with Erll (2008) definition of cultural memory, which posits that (1) no memory is purely individual but is always shaped by collective contexts, and (2) cultural memory represents a symbolic order where social groups use media, institutions, and behaviors to establish a shared past. The study examines how filmmakers traverse various dimensions—material (artifacts and media), mental (culturally defined ways of thinking and mentalities), and

social (people, social relations, institutions) aspects (Erll, 2008)—to impact Malaysian social history significantly.

Halbwachs emphasizes that collective memory is always selective; different human groups create distinct collective memories, giving rise to diverse behavioral modes (Anheier & Isar, 2011). The films present an alternative history to the audience, exposing the consistent exclusion of minorities in the official narrative and how the concept of Malaysian identity is not inclusive. Foucault (1977) refers to such memory as a counter-memory. Counter-memory presents a new truth, a residual or resistant strain that challenges official versions (Spence & Avc, 2013). For instance, documentary films depicting the involvement of left-wing political groups or the Malaysian Communist Party (MCP) are banned from public screenings in Malaysia.

Malaysia’s censorship system is shaped by two major factors: the legacy of British colonialism and the nation’s postcolonial politics and development after separating from Singapore in 1965 (Freedom Film Network, 2022). The first Act specifically addressing film censorship in Malaya was the Cinematograph Films Ordinance of 1952, enforced by the Minister of Home Affairs (Mahmud et al., 2011). The Film Censorship Board (LPF) was established in 1954, playing a significant role in censoring films related to sensitive issues such as religion, sexuality, and violence (Rao, 2013).

In 1966, the LPF was established in Kuala Lumpur, implementing a censorship

system across Malaysia, including Sabah and Sarawak (Mahmud et al., 2011). On May 13, 1969, a racial riot erupted in Kuala Lumpur following the Malaysian general election, triggered by political party members' discontent. In response, the government introduced The Second Malaysia Plan to mitigate the riot's effects.

The plan aimed to foster a cohesive, socially and economically equal, and progressive Malaysian nation, adhering to the principles of *Rukunegara* (National Ideology) (Ministry of Economy, 1971). The *Rukunegara* comprises five principles: belief in God, loyalty to the king and country, upholding the Constitution, rule of law, and good behavior and morality (Lent, 1974). The Ministry of Information and Broadcasting established guidelines for media compliance with the Second Malaysia Plan and *Rukunegara* (Lent, 1974).

In the 1990s, the Malaysian government introduced *Wawasan 2020*, a vision to transform the country into a developed nation by 2020. This vision encompassed economic development and reforms in cultural regulation and media sectors (Freedom Film Network, 2022). In 2002, the Film Censorship Act was revised, mandating that films screened in Malaysian cinemas must be certified by the Board of Film Censorship. Decisions to alter, ban, or classify a movie are made by the Board of Censors, the Appeal Committee, and the Minister of Home Affairs (MOHA) (Rao, 2013; Wood et al., 2022).

As a result, many filmmakers exercise caution in their subject choices to avoid

government censure, often engaging in self-censorship. For instance, Fahmi Reza and Amir Muhammad chose not to submit their films to the Malaysian Censorship Board. Although available online, their documentaries are not broadcast on national television or screened in cinemas. Films like *The Last Communist* (Muhammad, 2006) and *Apa Khabar Orang Kampung?* (Muhammad, 2007), both by Amir Muhammad and were banned for their communist themes. Similarly, Lau Kek-Huat's film *Absent without Leave* (Lau & Chen, 2017) was barred from the Malaysian Film Festival for documenting the history of the Malayan Communist Party (MCP).

Counter-memory suggests that memory functions under the influence of challenges and alternatives (Davis & Starn, 2010). The advent of mobile digital video cameras and a strong desire for social change has inspired a new generation of film activists in Malaysia, tackling societal antagonism and oppression on different platforms (Ahmad et al., 2017). Personal memories, especially on-camera testimonials of violence and suffering, are potent tools for questioning state narratives (Spence & Avc, 2013). Freedom Filmfest, an annual human rights film festival in Malaysia, illustrates how film can be a powerful social institution representing national struggles and influencing public opinion regarding problems like death in custody, Indigenous rights, elections, and democracy (Danker, 2015).

Nichols (1983) notes that the documentary form, ideological contestation, and notions of realism have evolved

throughout film history. In the twenty-first century, the understanding of authenticity has shifted, moving away from single-perspective realities. This change fosters open dialogue and brings silenced opinions to the fore (Gul, 2018). Both personal and collective memories can reshape perceptions, adding depth and meaning to history. Documentaries provide a platform for showcasing diverse perspectives, allowing individuals who have personally experienced historical events to share their memories.

Identity and Belonging

Personal reminiscences feature prominently in these documentary films, illuminating the shared experiences of those who fought for the country's independence. Shared history and its representations are key elements in constructing national identity (Rigney, 2018). According to Smith (1988), nations are forged from both civic and ethnic components; the civic component extends legal rights and duties across all strata and secures a homeland, while the ethnic component consists of historical memories and myths of descent.

Post-British colonization, Malaysia evolved into a "plural society," where racial and cultural distinctions were mirrored in occupational and economic roles (Zawawi, 2005). Malaysia is a country that embraces pluralism in all its aspects, including ethnicity, language, religion, culture, and others (Embong, 2001). Each ethnic community preserved its identity, influenced by implementing racial categorization

(Hagiwara, 1974). Race is an integral part of Malaysian identity, with racial categories recorded in birth certificates and identity cards, identifying citizens as Malay, Chinese, Indian, and others.

According to the Malaysian Census Report 2010 (Department of Statistics Malaysia, 2010), Malaysia's population stood at 28.3 million, consisting of 67.4% Bumiputera, 24.6% Chinese, 7.3% Indians, and 0.7% others. Malays were the dominant ethnic group in Peninsular Malaysia, representing 63.1%. In Sarawak, Ibans constituted 30.3% of the total citizens, while Kadazan/Dusun comprised 24.5% in Sabah. The Malays and Indigenous groups, collectively known as Bumiputera or "sons of the soil," enjoy constitutionally protected 'special rights.'

Shamsul (1995) notes that empirical research and analyses on nation-building, national identity, and multiculturalism in Malaysia often concentrate on "Malay supremacy" and "Malay hegemony," with less attention to minority perspectives, which are most pronounced at the grassroots and in everyday life. Focusing on ordinary Malaysians offers a deeper insight into identity beyond the state-defined concept of nationhood. Loh (2019) posits that ethnic politics has had a significant impact on Malaysian politics. However, it is important to recognize that not all Malaysians are swayed by it. While some may be drawn to ethnic-based politics, others prefer multi-ethnic politics that are more class-based.

In Malaysia, national identity can also denote a "nation-state" and a united

Malaysian nation or *Bangsa Malaysia*, which also acknowledges the Bumiputera's special position constitutionally (Shamsul, 1995). Former Prime Minister Dr. Mahathir Mohamad introduced the concept of *Bangsa Malaysia* as part of Vision 2020. Mohamad (1991) emphasized the necessity of affirmative action to create an equitable society, ensuring a fair ethnic balance in professions and major employment sectors and promoting the development of a robust Bumiputera commercial and industrial community.

According to Embong (2001), Malaysia underwent a significant transformation after gaining independence, resulting in a new middle class. This class brought new ideas for balancing the state, market, and civil society and introduced new forms of association and self-expression. Due to the rapid process of globalization, there is a convergence of values in consumption culture and lifestyle among the middle classes (Embong, 2007).

Anderson (2006) highlights that nationality, nation-ness, and nationalism are cultural constructs of an 'imagined community'; despite existing inequalities, the nation is perceived as a deep, horizontal comradeship. The concept of pluralism in Malaysia has cultivated its unique sense of definition, progressing to encompass the notion of diversity, identity, and society to a more mature sense of belonging that has brought new ideas to the screens. Documentary film serves as an effective medium for mediating memories about origins and beginnings, and stories can

be a potent tool for fostering connection and loyalty (Rigney, 2018). The goal of interviewing the filmmakers is to understand their perspectives and motivations for making the films and to explore the role these films play in defining Malaysian identity.

METHODOLOGY

The interview process was extensive, spanning from 2018 to 2021. Five filmmakers consented to be interviewed: Lau Kek-Huat, Amir Muhammad, Fahmi Reza, Harun Rahman, and Lara Ariffin. These interviews aimed to offer insight into the creative filmmaking process. All interviewees are Malaysian-born filmmakers who produced historical documentaries about Malaysia, focusing on pre- and post-independence periods.

The researcher utilized semi-structured interviews, which allowed the interviewees to freely share their opinions. Ten questions were prepared by the researcher as guidelines, with the duration of each interview ranging from 20 minutes to an hour. The researcher submitted the questions and the consent form, completed by the participating filmmakers, to the University's Ethical Committee to ensure proper processes were followed during the interviews.

The researcher encouraged the interviewees to openly express their views on the subject matter. Understanding the emotions of the documentary filmmakers is crucial to fully appreciating the significance of their work. According to De Caro (2012),

the analysis of shorter narratives embedded in a larger interview (such as those found in everyday conversation) can be extremely valuable in understanding an interviewee's attitudes and, by extension, the general attitudes and perspectives of a group, culture, or period.

All the interviews were recorded and transcribed into Word documents for analysis. Transcription software, such as Ottranscribe and Word transcription, included verbatim responses and timestamps. The main researcher completed the transcription to ensure the reliability of the data. The interviews were analyzed using thematic analysis. The main researcher performed the coding using computer-assisted qualitative data analysis software (CAQDAS), Quirkos. This CAQDAS software efficiently stores organizes, manages, and reconfigures data to facilitate human analytic reflection (Saldana, 2009).

DISCUSSION

Table 1, titled "Source Summary" (See Table 1), highlights the interviews conducted with filmmakers and the length of the interview transcripts. All filmmakers were interviewed individually, except for Lara Ariffin and Harun Rahman, who were interviewed together due to their collaboration in documentary film production. In total, 235 quotes were coded from the transcripts. Organizing the quotes and categorizing the codes was based on a hybrid approach, resulting in 92 codes (refer to Table 2, "List of Codes"). Some codes were merged and included as sub-categories, reducing the total number of quotes to 205.

During the coding exercise, several codes, often particular and narrow, are expected to be created to capture the complexity and diversity of the data (Linneberg & Korsgaard, 2019). Inductive coding allows for developing unexpected themes, potentially enriching the data analysis further (Roberts et al., 2019). The coding process continues as the researcher identifies new codes, refines existing ones, and reorganizes them into various categories to ensure alignment with theoretical frameworks.

The codes were grouped under similar categories defined by the researcher to reflect the issues highlighted in the interviews. Table 3, titled "Main Categories" (See Table 3), illustrates the 11 categories ranging from hope and challenges the filmmakers face to their feelings and experiences during film production. These insights provide a deeper understanding of the films and the filmmakers' intentions and roles as storytellers. According to Linneberg and Korsgaard (2019), creating higher-level categories draws on existing theories and concepts related to the phenomenon.

The researcher reflected on the research objectives and theory to identify the key themes relevant to the interviews. Themes developed from codes are constructed at the intersection of the data, the researcher's subjectivity, theoretical and conceptual understanding, and training and experience (Braun & Clarke, 2021). The interview process and subsequent data analysis reveal how the mediation of cultural memory impacts every aspect of the film production

process. This study explores the process of creating historical documentaries, focusing on the roles of storytellers and cultural memory factors to understand the complexities of preserving and sharing collective history. The discussion aims to provide an in-depth understanding of the dimensions of cultural memory, material, mental, and social, in filmmaking (Table 4).

Table 1
Sources summary

Title	Author	Length	Quotes Count
Interview Fahmi Reza	R1	36644	62
Interview Lau Kek-Huat	R1	25713	92
Interview Amir Muhammad Harun & Lara Interview	R1	13072	16
	R1	38745	65
Total			235

Source: Authors' work

Table 2
Lists of codes

Category	Codes	Quotes Count
Hope	To show appreciation to the older generation (1), to reach out to a wider audience (4), to ensure history is accessible to the public (3), to change people's perception (1), to educate the audience (4), to preserve history (5), to attract the younger audience (4), to highlight alternative history (4)	26
Challenges	Filming secretly (2), a small number of interviewees (2), difficulty locating subjects (2), no permit (1), a film banned and censorship (5), a burden to tell the story (1), risks defying the authority (4), family opposition (1), small budget (1), reluctant to tell the story (2)	21
First generation	Why do they fight? (1), politically young-minded people (1), resisting foreign power (6), shared idealism (2), protecting their homeland (2), seeking a better life (4), camaraderie spirit (4), belongingness (4)	24
Generation gap	Severed family ties (9), reconciliation (5), respect for the older generation (2), appreciation towards history (1), different political ideology (4)	21

Table 2 (Continue)

Category	Codes	Quotes Count
Second or third generation (3)	Too young to remember (1), searching for family roots (1), money is more important than politics (3), lack of historical knowledge (4), resentment (4), taking for granted (2), ignorance (1)	19
Untold history (5)	Challenging the dominant history (4), alternative history (2), a fair representation of history (7), unexplainable circumstances (1)	19
People's stories (8)	Confronting the past (1), stories from ex-British soldiers (2), stories from the grassroots (4), and an abundance of stories in Malaysia (1), the stories are finally heard (2)	18
Do not belong	Choose to leave (2), accused of treachery (3), unacknowledged contribution (2), hidden identity (1), 2 nd class citizen (1), not allowed to return (4), fighting a lost cause (3)	16
Audience (2)	Film as historical facts (6), shared sentiments (1), positive receptions (5), people are unaware of the history (1)	15
Memory	Absence of memory (1), childhood memories (1), personal memories (1), memories of younger days (4), dying memories (3), war memories (1), suppressed memories (3)	14
Official History	Colonizers (3), ruling elites (1), propaganda (1), state-controlled narrative (5), biased narrative (2)	12
Total		205

Source: Authors' work

Table 3

Main categories

Category	Description	Quotes Count
Hope	Filmmakers' motivation in producing the historical documentary film and what they would like to achieve from the production.	26

Table 3 (Continue)

Category	Description	Quotes Count
Challenges	Challenges that the filmmakers faced during production included censorship and film banning by the government.	21
First generation	The first generation refers to those who resided in Malaya and fought for independence.	24
Generation gap	The generation gap highlights the difference and reconciliation between the first, second and third generations.	21
Second or third-generation	Second of the third generation of Malaysians born after the country gained independence.	19
Untold history	The narration of history differs from the state-controlled narrative.	19
People's stories	People's stories refer to the historical narratives from the perspective of common folks/people.	18
Do not belong	Those who fought for Malaya and non- <i>Bumiputera</i> who were born in the country but feel they are not accepted as citizens.	16
Audience	Feedback from the local and foreign audiences in terms of the subject matter.	15
Memory	It encompasses the suppressed memory, absence of memory, childhood memory, the memory of younger days, dying memory, and personal memory.	14
Official History	State narrative or the dominant history	13
Total		205

Source: Authors' work

Table 4

Dimensions of cultural memory and main themes

Material Dimension	Mental Dimension	Social Dimension
Film Production	Memory	Identity
<ul style="list-style-type: none"> • Audience • Challenges • Hope 	<ul style="list-style-type: none"> • People's stories • Untold history 	<ul style="list-style-type: none"> • First generation • Second or third-generation • Generation gap • Do not belong

Source: Authors' work

Material Dimension

The study explores the significance of documentaries as cultural artifacts. Ndede et al. (2020) assert that films serve as vital sites and artifacts, providing access to information about a community's history and heritage. The study illuminates the documentary production process and how these films bridge the past and present, captivating audiences with history through storytelling. Interviews were conducted with documentary filmmakers to understand their motivations for using documentaries to present alternative historical perspectives.

To delve into the film production process, filmmakers were asked several questions about their motivations and experiences, including: (1) What motivated you to produce the documentary? (2) Can you describe the process of producing the documentary? (3) What challenges did you encounter during production? (4) What were your hopes for the film? (5) How did audiences react to the documentary?

These interviews were instrumental in gaining insights into the objectives and methodologies of the film's production. Daniels (2022) notes that the mediation of memory and history in documentaries can be achieved through non-linear narratives and hybrid film strategies. These strategies may incorporate elements of realism, fiction, voice-overs, the refilming of analog footage, and various formats and resolutions. The filmmakers' ambition to create historical documentaries stems from their belief that this storytelling can engage viewers, particularly younger audiences.

The filmmakers' motivations varied but commonly included reaching a broader audience and appealing to younger viewers. As a realistic medium, the documentary film offers viewers a fresh historical perspective. Scottish filmmaker and theorist John Grierson defined a documentary as "the creative treatment of actuality." Plantinga (2005) suggests that while the line between non-fiction and documentary films is not always distinct, documentaries can be seen as a subset of non-fiction films distinguished by their greater aesthetic, social, rhetorical, and political ambitions than typical corporate or instructional videos.

The new generation of Malaysian filmmakers utilizes hybrid filmmaking techniques to create engaging stories that make history appealing. For instance, Fahmi Reza stated, "To make a compelling documentary, I treat it as a story rather than merely presenting facts. Otherwise, it would be a boring documentary because my target audience is young people who dislike documentaries and hate history. So, to make it compelling, I have to tell an interesting story" (F. Reza, personal communication, January 13, 2020). Fahmi Reza chose not to state facts; instead employed a 3-act structure standard in fiction films. In the film's opening, he introduced the protagonists (The Malaysians) and the antagonist (the British colony).

The drama peaked with the *Hartal* incident, which triggered widespread protests throughout Malaya. *Hartal* refers to the nationwide strike led by the All-Malayan Council Joint Action (AMCJA) and *Pusat*

Tenaga Rakyat Melayu (PUTERA) against the British proposal for the Federation of Malaya (Tan, 2015). The filmmaker used diverse materials such as interviews, footage, newspaper clippings, and scanned photos to recreate *Hartal's* memory, achieving impactful storytelling through well-structured narratives and evidence presentation.

In *The Big Durian*, Muhammad (2003) utilized staged interviews to highlight political tension in 1989. Absent without Leave by Lau and Chen (2017) serves as a semi-autobiographical account of his grandfather, a member of the MCP, exploring how the movement impacted his family and mediated the memory of the Communist insurrection in Malaya. In *The Malayan Emergency*, Rahman and Ariffin (2020) focused on personal memories from both sides of the conflict, providing a multifaceted view of historical events.

While producing their films, the filmmakers faced numerous challenges, including working within limited budgets, finding suitable subjects, and overcoming the reluctance of Malaysian Communist Party (MCP) members to participate in interviews due to the stigma surrounding communism. Lau Kek-Huat also encountered resistance from his father and other family members as he sought to uncover painful memories. Additionally, these filmmakers were often subject to censorship and faced barriers from the Malaysian film censorship board for challenging the dominant narratives.

This censorship predominantly affected independent filmmakers. From the onset

of their film productions, Fahmi Reza and Amir Muhammad did not intend to submit their films for approval by the Malaysian Film Censorship Board. However, with the advent of the Internet and the option to screen their films at private showings and film festivals, they could still reach their intended audiences. Lau Kek-Huat mentioned that his film was not permitted to be screened at the Malaysian Film Festival for unspecified reasons. He was surprised: “The first time I heard about the ban was because of the Malaysia Film Festival. We did not expect it to be banned because the content was okay—I mean, I was not deliberately touching on the topic politically, saying MCP is right, politically right. Moreover, if you realize, most of the people I interviewed were not leaders; they were just soldiers. That was my point. I wanted to show them as human beings, instead of presenting this topic in a particular way. That was my motive. I did not expect it to be banned. It was surprising because I never thought it would be banned” (K.-H. Lau, personal communication, July 18, 2018). The resistance these filmmakers encountered highlights the critical need to preserve people’s history.

These filmmakers aim to make history more accessible to the public and ensure it is not forgotten. The audience’s reception, locally and internationally, was overwhelmingly positive. Many local viewers could relate to the historical events in stories their parents and grandparents shared, affirming their sense of identity. For younger audiences, these documentaries

present history as a meaningful narrative, providing an emotional connection rather than perceiving it as a distant past.

The filmmakers also stressed the importance of presenting their perspectives. Harun Rahman said, “We were conscious of how these stories are told. From a Western perspective, like BBC or ITV, they have the financial funds...they want to cover their side of the story. They are not so interested in Malaysia. I think for us, moving forward, we want to tell Malaysian stories” (H. Rahman, personal communication, May 24, 2021). Harun Rahman emphasizes the need for local filmmakers to bring forward stories from the grassroots level.

Amir Muhammad observed that the response from the local audience was more enthusiastic than the international audience, which typically attracts a niche market (A. Muhammad, personal communication, January 23, 2020). Over the years, Southeast Asian scholars like Ahmad and Ee (2003) have underscored the significance of adopting Asia-centric viewpoints in historical documentation. In Malaysian filmmaking, filmmakers must create a counter-narrative to ensure local voices are heard and represented.

Mental Dimension

The mental aspect of cultural memory highlights culturally defined ways of thinking and mentalities (Erll, 2008). The study of memory is closely linked to the history of mentalities, which shapes people’s understanding of the past through

beliefs, practices, and symbols (Confino, 1997). The field of mentalities in history focuses on ordinary people’s everyday attitudes and culture (Hutton, 1981) and is sometimes referred to as cultural history (Andrea, 1991). The history of mentalities emphasizes that the history of the powerless and illiterate is as vital as that of the elite classes. However, it often unfolds at a different pace and with a different mindset (Andrea, 1991).

This study examines the mental aspect of cultural memory, concentrating on the depiction of people’s history and its significance in amplifying the voices of minorities. Sharif (2022) underscores the importance of preserving local history and enriching the national historical narrative by investigating aspects and locations previously overlooked in national historiography. The goal is to enrich, rather than contest, the official history by emphasizing the significance of memory. This discussion focuses on personal stories that reveal hidden aspects of history to the audience.

In an interview, Amir Muhammad reflected on why he directed a historical documentary over other topics related to Malaysia. Amir Muhammad recalled his teenage years and memories of Prebet Adam, saying, “I remember certain things from my teenage years, like Prebet Adam, and that was the starting point of my interest. I was curious not so much about Prebet Adam but about the circumstances around that time. How could the country panic so easily, and that kind of thing?”

So, it started from a personal experience; even though I'm not a direct participant, I was affected because I was around then. Initially, it didn't occur to me as political or non-political" (A. Muhammad, personal communication, January 23, 2020). These reflections shaped his understanding of the nation's escalating political instability, inspiring him to direct *The Big Durian*, among other documentaries.

Halbwachs et al. (1980) propose that individuals can reconstruct memories through interactions, as memories are often vicariously experienced. Documentary films act like pieces of a jigsaw puzzle, aiding audiences to remember stories by filling historical voids. Erll (2008) posits that social groups construct a shared past, and individuals recall within a sociocultural framework. Memory plays a crucial role in shaping self-awareness (identity) at both personal and collective levels (Assman, 2008).

In developing their narratives, filmmakers focused on sourcing and presenting subject-centered arguments. Personal accounts and expert interviews offer an alternative narrative contrasting the state-controlled version. Bearing witness enables historical memory, underscoring the malleable nature of memories (Kwa, 2008; Spence & Avc, 2013). Films emphasizing cultural memories can profoundly impact audiences, resonating with a specific time's shared beliefs and cultural values (Bordwell et al., 2017). Foucault and Lotringer (1989) argue that memory is crucial to resistance;

manipulating someone's memory can influence their behavior.

Fahmi Reza pointed out that mainstream media's depiction of Malaysian history primarily highlights the "elitist" or "right" movement led by Western-educated Malay elites, particularly the United Malays National Organization (UMNO) (F. Reza, personal communication, January 13, 2020). Arifin (2014) notes that, in addition to Malay nationalist movements, various right-wing, leftist, and communist movements also fought for independence from British colonial rule. One of Fahmi Reza's motivations for producing *10 Tahun Sebelum Merdeka* (Reza, 2007) was to educate the audience about the left-wing party's movement and document its history.

In Malaysia, official history often excludes the contributions of leftist and communist parties, and this aspect of history is not included in school curriculums. In an interview, Fahmi Reza revealed that the suppressed history of the *Hartal* movement on October 20, 1947, was recently added to Malaysian school history textbooks following the release of his documentary, *10 Tahun Sebelum Merdeka* (Reza, 2007). He remarked, "The role of the history of the left is finally included in the history textbook (form four). I contributed in some small way; the documentary contributed" (F. Reza, personal communication, January 13, 2020). He believes that this historical documentary significantly influenced the Malaysian audience before 2008.

The 12th general election 2008 marked a significant shift in Malaysian politics, with an unprecedented cross-ethnic vote against the ruling government. This election led to the opposition alliance winning control of five state governments and ending the government's two-thirds majority in Parliament for the first time (Fee & Appudurai, 2011). Malaysians were generally optimistic that this political change signaled a move toward a more open and transparent government where public voices could be heard without censorship. However, strict censorship laws continued to regulate the Malaysian film industry heavily, encompassing bureaucratic procedures, regulatory legislation, and cultural and religious constraints, making the concept of film as a platform for ideological contestation largely theoretical (Ahmad et al., 2017).

In *The Malayan Emergency*, Rahman and Ariffin (2010) employed conversational techniques to present both the “right” and the “left” political perspectives, allowing history to speak for itself. By focusing on ordinary people, the film enables audiences to connect with the subject matter and appreciate living in today's multicultural society. The emphasis on multiracial representation in documentary films prompts viewers to reflect on belonging. Harun Rahman observed, “Malaya at that time was very different from today's Malaysia, especially in terms of the strength of nationalism” (H. Rahman, personal communication, May 24, 2021). He noted that documentary films can evoke a wide range of emotions, including laughter, anger, and tears, in their audiences.

Social Dimension

The social dimensions of memory emphasize that memory is not solely an individual process but a collective one. Collective memory underscores the relationship between the individual, society, culture, and memory (Sadowski, 2016). It must be understood within the social frame, which highlights the implicit or explicit framework of shared concerns, values, experiences, and narratives among people in a society (Assman, 2008).

The filmmakers are intimately connected to the community and history they depict. As second—or third-generation Malaysians born after independence, their drive to create historical documentaries stems from their experiences growing up in a multiracial society and witnessing the nation's progress and challenges. Historical documentaries promote reconciliation and understanding by bridging diverse backgrounds through shared experiences.

Shamsul (1995) points out a growing disparity in political views and beliefs among various ethnic groups among younger Malaysians. This lack of awareness about historical and contemporary issues challenges fostering a cohesive and unified nation. Blackburn (2009) suggests that reflecting on a shared past and demonstrating a willingness to make sacrifices during conflicts can significantly strengthen a collective national identity.

These films underscore the importance of cultural memory in discussions about identity, posing questions such as “Why do people fight for their country?” and

“What impact does this have on national perception?” They also highlight the generational gap between immigrants who fought for Malaya and those born after independence. History may seem distant to the younger generation, born into an independent Malaysia. Filmmakers like Harun Rahman, Lara Ariffin, Fahmi Reza, and Lau Kek-Huat have noted that many Malaysians are unaware of their country’s past (F. Reza, January 13, 2020; H. Rahman & L. Ariffin, personal communication, May 24, 2021; K.-H. Lau, July 18, 2018). Their documentaries have sparked interest among locals, encouraging them to explore their history further. A sense of shared memory, history, and culture can aid nation-building (Blackburn, 2009).

Mediating memories through social interactions aids recall. According to Halbwachs (1980), our memories are often shared and remembered with others, suggesting we are never truly alone with our memories. The group imagines its unity and uniqueness through a shared memory of its past (Assmann et al., 1995). Oral histories in documentaries give a voice to those often excluded from historical records (Hepp & Stine, 2015). For example, Fahmi Reza was motivated to direct his documentary because of the widespread ignorance about the *Hartal* movement (F. Reza, personal communication, January 13, 2020).

Film culture, intertwined with rituals of remembrance (Grainge, 2003), redefines social structures and connects imagined communities (Rigney, 2018). Remembering involves not just reminiscing but also

recognizing what has been forgotten. Cognitive theories describe memory as our ability to recall the past and our tendency to forget it (van Dijk, 2008). The challenge for the second and third generations is to embrace their identity, often feeling detached from their past.

Lau Kek-Huat’s motivation to produce *Absent without Leave* stemmed from his limited knowledge of his family history. He said, “I never met my grandfather. My father also had never met him... Originally, it was about my grandfather, but not intentionally about my father. At first, I didn’t expect to put so much about my relationship with my father” (K.-H. Lau, personal communication, July 18, 2018). He embarked on a journey to explore his grandfather’s background in the Malayan Communist Party (MCP), uncovering stories of ex-MCP members who fought against British colonialism. This exploration also led him to discover family history that had never been discussed within his family.

The documentary altered Lau’s perception of identity and belonging. Feeling marginalized in his own country, he gained new insights into privilege and sacrifice through his encounters with ex-MCP members (K.-H. Lau, personal communication, July 18, 2018). According to Smith (1988), a nation outside the Western context encompasses shared ancestry, democratic solidarity, common customs, languages, and a shared history.

The act of remembering underscores the significance of belonging. Harun Rahman discovered that ex-members of the

Malayan Communist Party joined not out of ideological commitment but to fight for independence, emphasizing the importance of belonging over political ideology. Rahman shared, “When we interviewed the communists, they mentioned that they were not really into establishing a communist state. They wanted the British out. To them, they were very nationalist. In that sense, they were not fighting for communism but for Malaya” (H. Rahman, personal communication, May 24, 2021).

Rahman also stresses the importance of presenting all perspectives and allowing the audience to form their opinions (H. Rahman, personal communication, May 24, 2021). Assmann (2008) posits that the recent surge in interest in memory reflects a broader trend of wanting to reclaim the past as an essential part of the present. This trend includes a desire to reassess and revalue individual biographies and position oneself in a broader historical context. It emphasizes how the social dimension of cultural memory affects our understanding of history.

CONCLUSION

The research findings highlight the filmmaker’s role as the storyteller in preserving people’s history, as well as the importance of cultural memory in historical narratives. The documentary mediates between the past and present, allowing the audience to rediscover their original roots and identities. It raises concerns about how the absence of people’s history from official material history affects their sense of belonging. The documentary creates a

platform for critical dialogue on Malaysian history, as well as an alternative history, to the audiences in a rigid atmosphere where the history of minorities is ignored.

Alternative history uncovers the inconsistency between the people’s history and the country’s dominant narrative. While the latter focuses on politicians and leaders fighting for independence, individual stories are often overlooked. Despite making significant progress in development since becoming independent, Malaysia still faces issues with racial politics and national unity, and minorities continue to feel ignored.

Documentary films serve as an arena wherein meanings are contested and negotiated as ordinary Malaysians share past challenges and future hopes for their country. The filmmakers emphasize the sense of solidarity in the Malayan multiracial society to encourage the audience to reexamine the past to build a better Malaysia. At the end of each interview, when asked about their hopes in producing the documentary films, the filmmakers provided a modest response. Their motivation to produce these films is to share them with a wider audience. They emphasized the importance of preserving history, as many stories gradually fade.

Implication for Theory (Theory of Cultural Memory) and Practice

The interdisciplinary field of cultural memory encompasses media studies, social and political science, psychology, history, and ongoing research into new areas. The theory of cultural memory has important implications for understanding the role of

the filmmaker in the filmmaking process and the significance of cultural memory in providing audiences with alternative narratives.

Based on the interviews' findings, the filmmaker's role as a storyteller is critical for preserving and highlighting people's history while ensuring that it is not forgotten. The filmmakers found it their responsibility to educate the audience, particularly Malaysia's younger generation, so that they could connect with their history. Documentaries have emerged as an important space for meaningful negotiation, contestation, and the presentation of alternative history.

Cultural heritage and memories are essential in creating collective identities for individuals, groups, and communities (Apaydin, 2020). Cultural memory has a significant impact on Malaysia's marginalized and minority communities because it allows them to rediscover their history and heritage. Malaysia's marginalized and minority communities, especially the younger generation born after the country's independence, have found it difficult to find a balance between integrating into society and transcending their past. They risk losing connection with their cultural heritage and Malaysian identity.

The emphasis on cultural memory allows people's history to be thoroughly documented and preserved, ensuring that it is passed down to future generations. It, in turn, fosters a thriving discussion on alternative history, allowing for a more nuanced understanding of the past and

its complexities and facilitating ongoing conversations about identity and belonging.

Limitations and Recommendations for Future Research

The study is limited to documentary films that concentrate on pre- and post-independence periods. The researcher chose a small sample of filmmakers to interview because qualitative research requires in-depth study and is time-consuming. From initially contacting the filmmakers through the completion of the analysis, the interview procedure took four years. The study does not cover the entire history of Malaysia; it specifically concentrates on Peninsular Malaysia.

One area of concentration for future research on historical documentaries is the work of Malaysian filmmakers from East Malaysia (Sabah and Sarawak), who are actively involved in chronicling the history of their people. The union of Peninsular Malaysia and East Malaysia is also an important historical landmark. It is also worth highlighting the work of the younger Malaysian filmmakers to understand their historical perspectives. The local academics' investigation of Malaysian history could contribute to a greater understanding of the past and the present to ensure that the people's history is not forgotten.

ACKNOWLEDGEMENTS

The authors thanks the following filmmakers, Lau Kek-Huat, Amir Muhammad, Fahmi Reza, Harun Rahman, and Lara Ariffin, for their time and willingness to share their

invaluable experiences, which made this research possible.

REFERENCES

- Ahmad, A. R., Rahim, A., Seman, A. A., & Salleh, M. J. (2010). Malaysian secondary school history curriculum and its contribution towards racial integration. *Procedia - Social and Behavioral Sciences*, 7(2), 488–493. <https://doi.org/10.1016/j.sbspro.2010.10.066>
- Ahmad, A. T., & Ee, T. L. (2003). *New terrains in Southeast Asian History*. Ohio University Press.
- Ahmad, M., Beng, L. Y., & Kim, W. L. (2017). Democratisation of cinematic space in Malaysia: Digital film activism and the freedom film festival. *Journal of Han Chiang College*, 9, 123-147.
- Ali, S. H. (2018). *A people's history of Malaysia*. Strategic Information and Research Centre (SIRD).
- Anderson, B. (2006). *Imagined communities: Reflections on the origin and spread of nationalism*. Verso.
- Andrea, A. J. (1991). News of historical interest. *The Historian*, 53(3), 605–608. <https://doi.org/10.1111/j.1540-6563.1991.tb00822.x>
- Anheier, H., & Isar, Y. (2011). *Heritage, memory & identity*. SAGE Publications. <https://doi.org/10.4135/9781446250839>
- Apaydin, V. (2020). Introduction: why cultural memory and heritage? In V. Apaydin (Ed.), *Critical Perspectives on Cultural Memory and Heritage* (pp. 1–10). UCL Press. <https://doi.org/10.2307/j.ctv13xpsfp.6>
- Arifin, A. (2014). Local historians and the historiography of Malay. *Kajian Malaysia*, 32(1), 1–35.
- Assman, A. (2008). Transformations between history and memory. *Social Research*, 75(1), 49–72. <https://doi.org/10.1353/sor.2008.0038>
- Assmann, J., Czaplicka, J., & Assmann, J. (1995). Collective memory and cultural identity. *New German Critique*, 65, 125–133. <https://doi.org/10.2307/488538>
- Bell, D. (2011). Documentary film and the poetics of history. *Journal of Media Practice*, 12(1), 3–25. <https://doi.org/10.1386/jmpr.12.1.3>
- Bernard, S. C. (2016). *Documentary storytelling: Creative nonfiction on screen / Sheila Curran Bernard* (4th ed). Focal Press.
- Blackburn, K. (2009). Recalling war trauma of the pacific war and the Japanese occupation in the oral history of Malaysia and Singapore. *The Oral History Review*, 36(2), 231–252. <https://doi.org/10.1093/ohr/ohp041>
- Bondebjerg, I. (2014). Documentary and cognitive theory: Narrative, emotion and memory. *Media and Communication*, 2(1), 13–22. <https://doi.org/10.17645/mac.v2i1.17>
- Bordwell, D., Thompson, K., & Smith, J. (2017). *Film art*. McGraw Hill.
- Braun, V., & Clarke, V. (2021). Conceptual and design thinking for thematic analysis. *Qualitative Psychology*, 9(1), 3–26. <https://doi.org/10.1037/qup0000196>
- Confino, A. (1997). Collective memory and cultural history: Problems of method. *The American Historical Review*, 102(5), 1386–1403. <https://doi.org/10.2307/2171069>
- Daniels, J. (2022). The way of the bricoleuse: Experiments in documentary filmmaking. *Studies in Documentary Film*, 16(2), 127–139. <https://doi.org/10.1080/17503280.2022.2048232>
- Danker, B. (2015). Activist films: How alternative narratives contribute to nation building. In *The 2015 WEI International Academic Conference Proceedings* (pp. 71-78). The West East Institute.
- Davis, N. Z., & Starn, R. (2010). Memory and counter-memory. *Representations*, 26, 1–6. <https://doi.org/10.2307/2928519>

- De Caro, F. (2012). Stories and “oral history” interviews: A thematic analysis of “embedded” narratives. *Western Folklore*, 71(3–4), 257–277.
- Department of Statistics Malaysia. (2010). *Population and housing census*. <https://www.myecensus.gov.my/>
- Drake, P. (2003). “Mortgaged to music”: New retro movies in 1990s Hollywood cinema. In P. Grainge (Ed.), *Memory and popular film* (pp. 183-199). Manchester University Press.
- Embong, A. R. (2001). The culture and practice of pluralism in postcolonial Malaysia. In R. W. Hefner (Ed.), *The politics of multiculturalism* (pp. 59–85). University of Hawai’i Press. <https://doi.org/10.1515/9780824864965-003>
- Embong, A. R. (Eds). (2007). *Rethinking ethnicity and nation-building: Malaysia, Sri Lanka & Fiji in comparative perspective*. Persatuan Sains Sosial Malaysia. <https://s3.us-west-1.amazonaws.com/p-library/upload-books/2018-05-30/RETHINKING%20ETHNICITY%20AND%20NATION%20BUILDING.pdf>
- Erlil, A. (2008). Cultural memory studies: An introduction. In A. Erlil & A. Nunning (Eds.), *Media and Cultural Memory*. De Gruyter. <https://doi.org/10.1515/9783110207262.0.1>
- Fee, L. K., & Appudurai, J. (2011). Race, class and politics in peninsular Malaysia: The general election of 2008. *Asian Studies Review*, 35(1), 63–82. <https://doi.org/10.1080/10357823.2011.552706>
- Foucault, M. (1977). *Language, counter-memory, practice: Selected essays and interviews*. Cornell University Press.
- Foucault, M., & Lotringer, S. (1989). *Foucault lives: Collected Interviews, 1961-1984*. Semiotext (E). https://monoskop.org/images/8/83/Foucault_Live_Collected_Interviews_1961-1984_1996.pdf
- Freedom Film Network. (2022). *Censorship and its impact on the screen industry in Malaysia*. <https://freedomfilm.my/bebaskan-film-reports/>
- Grainge, P. (2003). Introduction: Memory and popular film. In P. Grainge (Ed.), *Memory and popular film* (pp. 1–20). Manchester University Press.
- Gul, S. (2018). Memory as resistance in documentary drama the laramie project and the exonerated. *Hacettepe Üniversitesi Edebiyat Fakültesi Dergisi*, 36(1), 99–109. <https://doi.org/10.32600/huefd.435820>
- Hagiwara, Y. (1974). Political leadership of the malaysian alliance party: Rahman to Razak. *The Developing Economics*, 12(4). <https://doi.org/10.1111/j.1746-1049.1974.tb00337.x>
- Halbwachs, M. (1980). *The collective memory*. Harper & Row. <https://books.google.com.my/books?id=bL4TAQAIAAJ>
- Hee, W. S. (2017). Anti-communist moving images and cold war ideology: On the Malayan film unit. *Inter-Asia Cultural Studies*, 18(4), 593–609. <https://doi.org/10.1080/14649373.2017.1391471>
- Hepp, J., & Stine, M. (2015). The art of the documentary meets oral history. In J. Ng (Ed.), *Culture, time and passion: The fibres of art* (pp. 1-10). Warnborough College.
- Hutton, P. H. (1981). The history of mentalities: The new map of cultural history. *History and Theory*, 20(3), 237–259. <https://doi.org/10.2307/2504556>
- Khoo, G. C. (2008). Urban geography as pretext: Sociocultural landscapes of Kuala Lumpur in independent Malaysian films. *Singapore Journal of Tropical Geography*, 29(1), 34–54. <https://doi.org/10.1111/j.1467-9493.2008.00318.x>
- Kwa, C. G. (2008). Oral histories in the making of our memories and heritage. *Asian Journal of Social Science*, 36(3), 612–628. <https://doi.org/10.1163/156853108X327100>
- Lau, K.-H., & Chen, J.-L. (Director). (2017). *Absent without leave* [Film]. Hummingbird Production Co. Ltd.

- Lee, K. T., & Mohd Safar, H. (2016). Artikulasi isu-isu sejarah dalam media massa di Malaysia [Articulation of historical issues in the mass media in Malaysia]. *Jebat: Malaysian Journal of History, Politics & Strategic Studies*, 43(1), 1–18.
- Lent, J. A. (1974). Malaysia's guided media. *Index on Censorship*, 3(4), 65–75. <https://doi.org/10.1080/03064227408532375>
- Linneberg, M. S., & Korsgaard, S. (2019). Coding qualitative data: A synthesis guiding the novice. *Qualitative Research Journal*, 19(3), 259–270. <https://doi.org/10.1108/QRJ-12-2018-0012>
- Loh, F. K. W. (2019). *Old vs new politics in Malaysia: State and society in transition*. SIRD & Aliran.
- Mahmud, W. A. W., Ibrahim, F., Mustafa, N., & Basri, F. K. H. (2011). Malaysian film censorship board (LPF) in the globalization era: Towards transformation and innovation. *The Innovation Journal: The Public Sector Innovation Journal*, 16(3), Article 10.
- Mohamad, M. (1991). *Malaysia: The way forward (Vision 2020)*. Percetakan Nasional Malaysia. <https://policy.asiapacificenergy.org/sites/default/files/vision%202020.pdf>
- Muhammad, A. (Director). (2003). *The big Durian* [Film]. Doghouse73 Pictures.
- Muhammad, A. (Director). (2006). *The last communist* [Film]. Redfilms.
- Muhammad, A. (Director). (2007). *Apa khabar orang kampung* [How's the villagers] [Film]. Da Huang Pictures.
- Ndede, L., Otieno, S., & Musonye, M. (2020). Film as an artefact. *Journal of African Theatre, Film and Media Discourse*, 1(1), 57-72. <https://doi.org/10.33886/kujat.v1i1.126>
- Nichols, B. (1983). The voice of documentary. *Film Quarterly*, 36(3), 17–30. <https://doi.org/10.2307/3697347>
- Ogunleye, F. (2005). Television docudrama as alternative records of history. *History in Africa*, 32, 479–484. <https://doi.org/10.1353/hia.2005.0019>
- Plantinga, C. (2005). What a documentary is after all. *The Journal of Aesthetics and Art Criticism*, 63(2), 105–117. <https://doi.org/10.1111/j.0021-8529.2005.00188.x>
- Rahman, H. & Ariffin, L. (2010). *The Malayan emergency* [Film]. AETN All Asia Networks, FINAS.
- Rao, A. (2013). Film censorship and its relevance in modern Malaysia. *Researchers World: Journal of Arts, Science & Commerce*, 4(1), 42–50.
- Reza, F. (Director). (2007). *10 tahun sebelum merdeka* [10 years before independence][Film]. Independent Film.
- Rigney, A. (2018). Remembrance as remaking: Memories of the nation revisited. *Nations and Nationalism*, 24(2), 240–257. <https://doi.org/10.1111/nana.12388>
- Roberts, K., Dowell, A., & Nie, J. B. (2019). Attempting rigour and replicability in thematic analysis of qualitative research data: A case study of codebook development. *BMC Medical Research Methodology*, 19(1), 1–8. <https://doi.org/10.1186/s12874-019-0707-y>
- Rosenstone, R. A. (1992). JFK: Historical fact / historical film. *The American Historical Review*, 97(2), 506–511. <https://doi.org/10.2307/2165732>
- Sadowski, M. M. (2016). Psychological, social, cultural, literary and legal dimensions of memory. *Wroclaw Review of Law, Administration & Economics*, 5(1), 141–161. <https://doi.org/10.1515/wrlae-2015-0029>
- Saldana, J. (2009). *The coding manual for qualitative researchers*. Sage Publications Ltd. <https://uk.sagepub.com/en-gb/eur/the-coding-manual-for-qualitative-researchers/book273583>

- Shamsul, A. B. (1995). In search of 'Bangsa Malaysia': Politics of identity in multiethnic Malaysia. *Hitotsubashi Journal of Social Studies*, 27, 57–68.
- Sharif, S. N. H. M. (2022). *Pendekatan sejarah lokal dan kepentingannya dalam pensejarahan Malaysia* [Local history approach and its importance in Malaysian historiography]. *Akademika*, 92(3), 199–209. <https://doi.org/10.17576/akad-2022-9203-15>
- Smith, A. D. (1988). The myth of the modern nation and the myths of nations. *Ethnic and Racial Studies*, 11(1), 1-26. <https://doi.org/10.1080/01419870.1988.9993586>
- Spence, L., & Avc, A. K. (2013). The talking witness documentary: Remembrance and the politics of truth. *Rethinking History*, 17(3), 295–311. <https://doi.org/10.1080/13642529.2013.774714>
- Tan, M. I. (2015). The formation of the Malayan Chinese Association (MCA) revisited. *Journal of the Malaysian Branch of the Royal Asiatic Society*, 88(2), 105–124. <https://doi.org/10.1353/ras.2015.0014>
- van Dijck, J. (2004). Mediated memories: Personal cultural memory as object of cultural analysis. *Continuum*, 18(2), 261–277. <https://doi.org/10.1080/1030431042000215040>
- van Dijck, J. (2008). Mediated memories: A snapshot of remembered experience. In J. Kooijman, P. Pisters, & W. Strauven (Eds.), *Mind the screen: Media concepts according to Thomas Elsaesser* (pp. 71-81). Amsterdam University Press.
- Weinstein, P. B. (2016). Society for history education movies as the gateway to history: The history and film project. *The History Teacher*, 35(1), 27–48. <https://doi.org/10.2307/3054508>
- Wood, S., Guan, S. T., & Ayavoo, M. R. (2022). Film censorship in Malaysia: Key issues and challenges of the system. *SEARCH Journal of Media and Communication Research*, 14(1), 95–108.
- Yasin, M. A. I. (2006). *History and development of documentary production in Malaysia*. <https://research.ebsco.com/linkprocessor/plink?id=6dd6f43a-87d3-3478-8d9a-1d3a71d3620b>
- Zawawi, I. (2005). The cultural context of Malaysian film policy: The new Malaysian cinema. In L. Feilberg (Ed.), *Seminar on film industries in Asia and Europe: A platform for experiences' sharing*. Asia-Europe Foundation.

Science Teachers' Pedagogical Orientations Versus Students' Preferred Orientations in Pakistan

Fayyaz Ahmad Faize^{1*} and Nada Ibrahim Alribdi²

¹Humanities Department, COMSATS University Islamabad, Pakistan

²Department of Teaching and Learning, College of Education and Development, Princess Nourah Bint Abdulrahman University, Saudi Arabia

ABSTRACT

Previous studies have sufficiently debated science teachers' pedagogical orientations (PO); however, research on students' preferred or desired orientations is scarce. This study determined students' preferred teaching orientations in relationship with their teachers' PO. The sample included 313 grade VIII students and 94 teachers from middle schools in Peshawar-Pakistan. Three vignettes from the Pedagogy of Science Teaching Tests (POSTT) were used to find PO. Data was analyzed using frequency count, means, and t-test. The findings revealed students' and teachers' preferences for didactic direct and active direct orientations. However, the choice of orientation varied with the nature of the topic. The students and teachers showed the least preference for open inquiry orientation. A significant positive correlation existed between teachers' PO and teaching experience, and a negative correlation existed between students' preferred orientations and academic achievement in the general science subject. Interestingly, students with higher test scores preferred teacher-centered instead of student-centered orientations. The study suggests improving teacher education programs to train science teachers in inquiry orientations and its proper integration with science content at all levels.

Keywords: Didactic teaching, education quality, inquiry, pedagogical orientations, process innovation, teaching orientation

ARTICLE INFO

Article history:

Received: 26 October 2023

Accepted: 13 June 2024

Published: 19 November 2024

DOI: <https://doi.org/10.47836/pjssh.32.4.09>

E-mail addresses:

drfayyaz@comsats.edu.pk (Fayyaz Ahmad Faize)

nialrbdy@pnu.edu.sa (Nada Ibrahim Alribdi)

*Corresponding author

INTRODUCTION

Pedagogical orientations (PO) refer to teachers' preference toward a specific type of instruction or teachers' predisposition toward an instructional approach. It is a critical element of the pedagogical content knowledge (PCK) model for science teaching (Friedrichsen & Dana,

2005; Magnusson et al., 1999). Anderson and Smith (1987) defined its orientation toward science teaching and learning as the “general patterns of thought and behavior related to science teaching and learning.” They identified four teaching orientations: activity-driven teaching, didactic teaching, discovery teaching, and conceptual-change teaching. All these orientations focus on teachers’ behavior during science instruction. Some years later, Magnusson et al. (1999) added five more orientations to Anderson and Smith’s model: process, academic rigor, project-based science, inquiry, and guided inquiry. Later, Friedrichsen (2002) categorized these orientations into two types: teacher-centered and student-centered orientations. The former relates to didactic and academic rigor, while the latter corresponds to the reform efforts of the 1960s (process, activity-driven, discovery) and contemporary reform efforts and curriculum projects (like conceptual change, project-based, inquiry, and guided inquiry).

The knowledge of PO is helpful to science teachers because it guides their instructional process, assessment procedures, content coverage, and textbook use. These fundamentals can influence teachers’ teaching methodologies, classroom management, and student interactions (Revathi & John, 2019). Distinct PO reflects differing perspectives on the essence of knowledge, how acquiring knowledge occurs, and the teacher’s and student’s involvement in the learning process. Teachers lacking knowledge of PO are more

likely to use teacher-centered orientations. Traditional techniques where teachers have primary control in the classroom. They usually incorporate lectures, repetitive learning, and personalized guidance. Students often receive knowledge passively in such settings. In contrast, knowledge of PO will enable a science teacher to choose an appropriate orientation to teach a particular topic. A science teacher may have more than one pedagogical orientation and thus may follow different instructions depending on the nature of the topic and the grade level (Magnusson et al., 1999).

Various factors influence teachers’ PO. The first is the teachers’ previous job or college experiences (Friedrichsen & Dana, 2005). The teachers would usually adopt a teaching orientation that they are familiar with or have been doing in the past. It also supports the utility of teacher training or taking a science method course. Sahingoz and Cobern (2020) found that teachers who had taken a science method course usually adopted a student-centered orientation. It may be taken with caution as teachers in Pakistan follow teacher-centered pedagogies despite having studied science method courses (Faize et al., 2023). A possible reason for this may be the quality and interaction of science students during classroom instruction. Friedrichsen and Dana (2005) supported this contention that classrooms with passive learners encourage science teachers to use didactic approaches and vice versa. Lastly, science teaching orientation is also influenced by the time available to cover the science syllabus.

Student-centered orientations are time-consuming approaches that science teachers usually avoid completing the course on time.

The literature review on PO has focused on either pre-service or in-service teachers while neglecting how science students preferred to be taught. Pre-service science teachers usually prefer didactic orientation (Cansiz & Cansiz, 2016; Feyzioglu, 2015), while some studies have observed inquiry orientations and orientations that lie between didactic and inquiry (Güven et al., 2019; Sahingoz & Cobern, 2020). These studies observed that the subject matter influenced teachers' PO, selection of objectives for teaching a topic, students' and teachers' roles, grade level, and familiarity with the science method course. Sahingoz and Cobern (2020) found that pre-service science teachers who had studied a science method course opted for guided and open inquiry approaches. In contrast, teachers who had not studied science method courses chose didactic direct orientation. However, the small sample size ($N = 20$) limited the generalizability of this research. Listiani et al. (2019) explored the PO of 57 pre-service Biology teachers in Indonesia. They found that teachers who had studied science teaching courses had less variation in their PO and would choose inquiry orientations compared to those in their earlier semesters.

In another study, Cansiz and Cansiz (2016) explored the science teaching orientation of eleven pre-service teachers enrolled in an elementary science program. They used the content representations (CoRe) instrument developed by Loughran et al.

(2008) to explore the teaching orientations of science teachers based on Magnusson et al. (1999) nine orientations classification. They found that 37% of CoRe reflected didactic orientation as the most preferred teaching orientation. No orientation was observed related to conceptual change and activity-driven approaches. The teachers also had multiple orientations based on the nature of the topic. However, some teachers also exhibited multiple teaching orientations, even for a specific topic. One reason for multiple orientations might be the objectives of teaching a topic mentioned in the national science curriculum. Whether cognitive or psychomotor, the nature of objectives guides the teacher toward a specific teaching orientation.

However, the PO of in-service teachers was influenced by school location, resource availability, and schools' expectations. A study by Ramnarain and Schuster (2014) examined 200 in-service teachers from two locations: township and suburban schools. The Pedagogy of Science Teaching Test (POSTT) explored the PO. The findings revealed different pedagogical orientations due to differences in locality, resources, and schools' expectations. The township teachers were strongly inclined toward active direct teaching, while the suburban teachers exhibited a guided inquiry orientation. Would this also mean that teachers teaching in a suburban school with an inquiry orientation switch to didactic instruction if transferred to a township school and vice versa? The answer is affirmative because Ramnarain and Schuster (2014) concluded

that teaching orientations are influenced by the schools' location and the type of available school resources.

Furthermore, the PO is also influenced by the social context available in a school. By social context, we mean the social environment in the school, the diversity of various cultural and ethnic groups, language differences, and students' socio-economic status. Mavuru and Ramnarain (2018) investigated how this social context influences the pedagogical orientation of in-service teachers in three township schools in South Africa. The students in the three schools had diverse social and cultural backgrounds and socio-economic statuses and spoke different languages, thus providing a rich background for their study. The researchers used semi-structured interviews and classroom observations for data collection. The results indicated that the learner's social and cultural background, beliefs, and experiences influenced science teachers' orientations. They identified only two orientations, process and activity-driven, given by Magnusson et al. (1999), while the remaining seven were not traced. The small sample size and the few observed lesson plans might be a possible reason for this. However, considering the importance of social context in molding teaching orientation, there is a need to overhaul the pre-service teacher training program regarding the social and cultural context and educate prospective teachers to consider these socio-cultural factors during classroom instruction.

Another influencing factor is teachers' beliefs about learning because these beliefs influence teachers' classroom practices. To investigate this relationship, Boesdorfer (2014) observed the classroom practices and beliefs of an experienced Chemistry teacher known for reform-based teaching. The researcher also collected data through interviews and teaching documents (worksheets, lesson plans, handouts, and assessments). The findings revealed that the teacher's belief in science teaching and learning was aligned with her classroom practices, which means that teachers' beliefs are an essential indicator of their teaching orientation. We may question this finding because it was concluded from a single case study of one Chemistry teacher. However, the finding is also supported by Magnusson et al. (1999) model that teaching orientation influences and is influenced by the other areas of PCK, including instructional practices and teachers' beliefs.

While all the above studies are referenced internationally, limited research has been conducted on teachers' pedagogical orientations in Pakistan. For example, some studies have observed that Pakistani teachers tend to have a traditional, teacher-centered orientation, relying on rote learning and lecture methods (Faize, 2011; Zafar et al., 2022). In addition, teachers in Pakistan often lack proper training in pedagogy and may not fully understand the principles of student-centered learning (Dahar & Faize, 2011a). Besides, Pakistan's education sector faces numerous challenges, including low enrollment, high dropout rates, and

a low educational budget. The lack of knowledge about teachers' pedagogical orientations in Pakistan highlights the need for further research and professional development opportunities for teachers. By gaining a deeper understanding of teachers' orientations, policymakers and educators can work towards creating a more student-centered education system and improving student outcomes. Besides, this study also aimed to find students' desired orientation in Pakistan in relation to their teachers' PO. The findings will be helpful to teacher training institutes and science educators regarding the existing educational practices in science education and initiating efforts to improve the learning and instruction of STEM subjects during the rapid technological challenges.

Theoretical Framework

Pedagogical orientations can be assessed through various instruments such as the card-sorting task (Friedrichsen & Dana, 2003), Content Representations (CoRes) (Loughran et al., 2008), and Pedagogical orientations toward science inquiry teaching (POSITT) (Renee'S et al., 2010). However, this study used the Pedagogy of Science

Teaching Tests (POSTT) Cobern et al. (2014) developed. POSTT is a tool that has been specifically developed to assess the pedagogical views and behaviors of teachers in relation to the teaching of science. The POSTT framework differentiates conventional, instructor-focused, and modern, learner-centered (or inquiry-based) methodologies. The reasons for choosing POSTT are its reliability in assessing pedagogical orientations, ease of analysis, and the availability of many pool items from different school science areas. Each POSTT item reflects a vignette with four options. The participants are asked to read the vignette and choose one option that best matches their pedagogical choice. The options indicate four types of PO: didactic direct, active direct, guided inquiry, or open inquiry. The details of each variant are elaborated on in Table 1. Some studies that have used the POSTT instrument for assessing PO are Listiani et al. (2019), Ramnarain and Schuster (2014), and Sahingoz and Cobern (2020). This study selected three vignettes from the physical science area of the POSTT instrument (Appendix A). Prior permission was sought from the original authors to use the POSTT instrument for this study.

Table 1
The variant of PO and its description

Fundamental epistemic mode	Variant for each mode	Operationalized description
Science as factual knowledge...	1. Didactic Direct	The teacher presents and explains science content directly and illustrates it with examples or demos. No student activities.
"Ready-made science"	2. Active Direct	The teacher presents and explains science content directly... students actively engage in verification.

Table 1 (Continue)

Fundamental epistemic mode	Variant for each mode	Operationalized description
Science as a process of scientific inquiry	Guided Inquiry	Students actively explore phenomena or ideas with teacher guidance toward desired science content.
"Science in the making"	Open Inquiry	Students actively explore phenomena or ideas as they choose.... The teacher facilitates the process but does not prescribe

Source: Cobern et al. (2014)

Research Questions

Q1. What PO is held by science teachers in the sampled schools?

Q2. What are the preferred orientations of science students in the sampled schools?

Q3. Is there any relationship between teachers' PO and students' preferred orientations?

Q4. Is there any relationship between teachers' PO and their teaching experience?

Q5. How is students' preferred orientation related to their academic achievement in science?

MATERIALS AND METHODS

Research Design

This study was descriptive with a survey-type design.

Selection of Samples

We used a multi-stage sampling technique to collect data from the target sample. The sample included grade VIII students

and teachers at the middle school level. During the first stage, we randomly selected twenty-five schools from a list of schools provided by the district education office in Peshawar. In the second stage, all general science teachers in the sampled schools were selected for data collection. The number of teachers ranged from two to five, depending upon the school's strength and the number of sections. The total number of teachers in the sampled schools was 112. However, 94 teachers provided consent to participate in the study. During the third stage, the students of grade VIII were conveniently selected from each school based on their availability and consent to participate in the study. For this purpose, we sought permission from the school headmaster to allow access to the relevant classrooms of grade VIII. The reason for selecting grade VIII students was their prior background with the topics of the vignettes selected for this study. Ethical guidelines were duly followed, and informed consent was taken. The total number of students in the sampled schools was 596; however, 313 students consented to participate. Not participating in the study was due to the student's lack

of confidence and interest in research activities. The number of valid responses was 88 teachers and 162 students. Sadly, most student responses were invalid (151 students) due to multiple or incomplete responses or a lack of understanding of the vignette items and the pedagogical choices.

Research Instrument and Data Analysis

The data were collected through the POSTT instrument and students' achievement in their mid-term exams in the science subject. As the data were collected from 25 government schools, we faced the limitations of a reliable instrument to obtain students' performance. For convenience, we obtained students' achievement in the general science subject in the mid-term examination of grade VIII. However, we ensured that all the selected schools were from the same district and with the same resources.

We selected three vignettes from the POSTT pool, all from the physical science area, to keep the subject domain constant (Appendix A). The teachers took 10 to 15 minutes, while students took 20 to 25 minutes to complete the instrument. The participants were encouraged to read each vignette carefully and choose their preferred response. Each vignette reflected four types of PO: didactic direct (DD), active direct (AD), guided inquiry (GI), and open inquiry (OI), and was assigned a score of one, two, three, and four, respectively for finding the means for each group and statistical difference using t-test.

RESULTS

Participants' responses to the POSTT test were noted for each vignette to find the percentage for each orientation type. The mean, SD, and t-test were calculated using IBM SPSS ver. 27 to conclude the results. The first three figures provide answers to RQ1, RQ2 and RQ3.

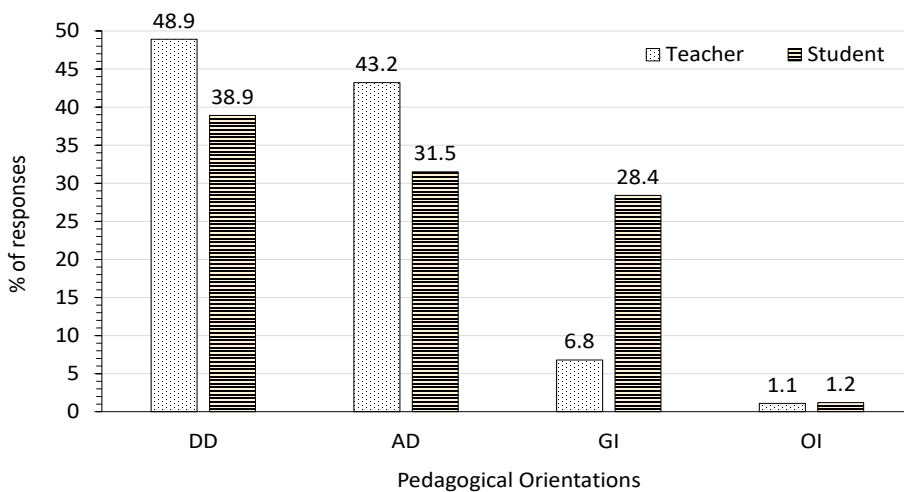


Figure 1. Orientations on Vignette 1 (Air is Matter)
 Source: Cobern et al. (2014)

Vignette 1: The topic was ‘air is matter.’ Both teachers and students preferred DD and AD orientations in vignette 1 (Figure 1). Most participants favored DD (48.9% teachers, 38.9% students) and AD (43.2% teachers and 31.5% students). However, a considerable number of students also preferred GI (28.4%), which accounted for significant differences in teachers’ and

students’ preferred orientation ($t(248) = 3.25, p = .001$). Generally, the teachers and students preferred teacher-centered approaches (DD and AD); however, students also desired the GI approach for learning about ‘air as matter.’ Both teachers and students, however, did not opt for OI orientation.

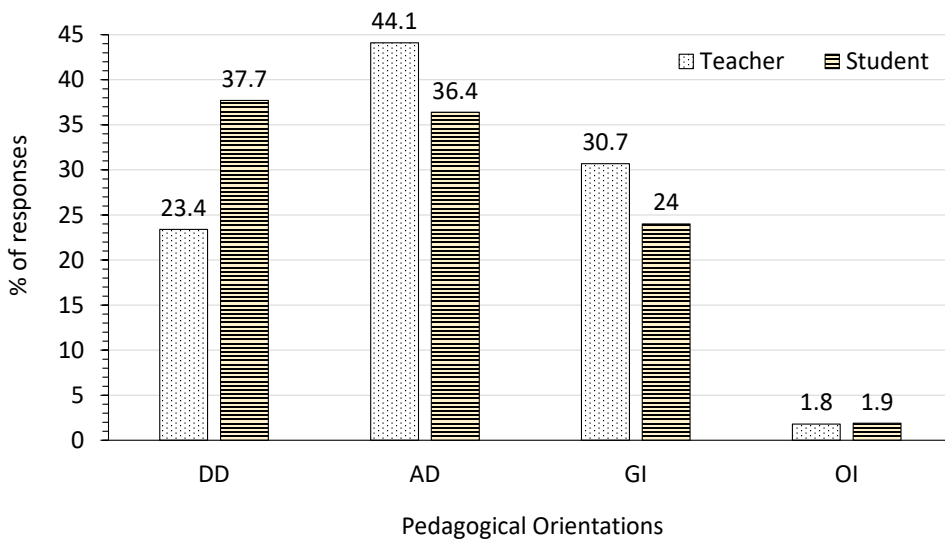


Figure 2. Orientations on Vignette 2 (Reflection of Light)

Source: Cobern et al. (2014)

Vignette 2: Participants’ responses to this vignette related to the reflection of light were scattered (Figure 2). Both teachers and students preferred AD orientation (teachers 44.1%, students 36.4%). However, many teachers and students also opted for DD and GI, while both samples did not favor OI. The t-test showed no significant difference in the mean, $t(248) = 1.66, p = .098$.

Vignette 3: This vignette was about force and motion. The participants’ responses were scattered among DD, AD, and GI (Figure 3). The t-test revealed significant differences in participants’ preferred orientations ($t(248) = 4.91, p = .000$). While most teachers preferred GI (58.6%), the students desired DD (47.5%) orientation.

1) Research Question 4: Is there any relationship between teachers’ PO and their teaching experience?

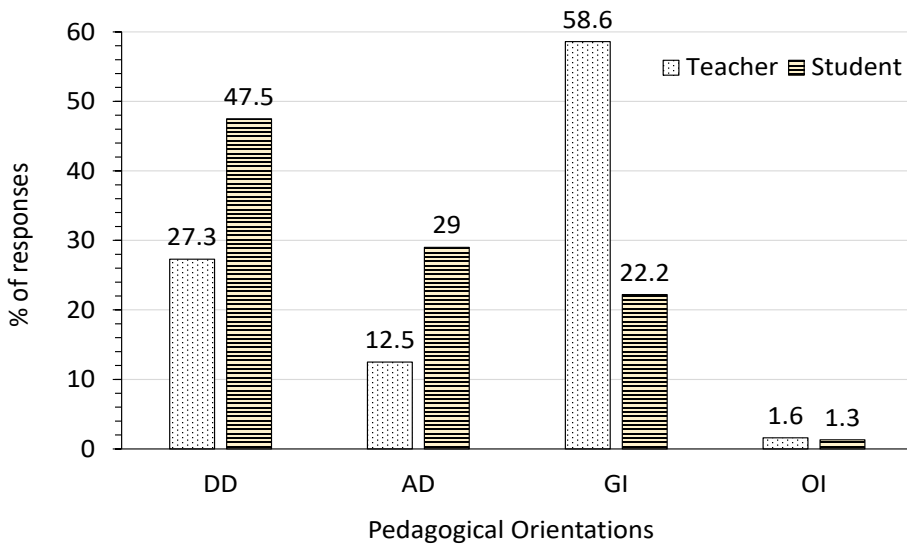


Figure 3. Orientations on Vignette 3 (Force & Motion)
 Source: Cobern et al. (2014)

Table 2 shows teachers' POs and their teaching experience. Interestingly, there was a significant positive correlation between teachers' teaching experience and their

PO in all three vignettes. However, the correlation coefficient was moderate in all three vignettes.

Table 2
 Relationship between teachers' experience & PO (N = 88)

	Teaching experience	p
PO on vignette 1	.308*	.004
PO on vignette 2	.256*	.016
PO on vignette 3	.433*	.002

Note. *Significant at .05

Source: Authors' work

2) Research Question 5: How is students' preferred orientation related to their academic achievement in science?

was found for vignette 1 ($r(160) = -.298, p = .000$) and vignette 2 ($r(160) = -.194, p = .013$), indicating that students with high scores favored teacher-centered orientations (DD and AD). However, there was no significant relationship in vignette 3 ($r(160) = -.033, p = .681$).

Table 3 shows the relationship between students' desired orientations and their mid-term exam scores in the general science subject. A significant negative correlation

Table 3

Relationship between students' preferred orientation and science achievement (N = 162)

	Academic performance	p
PO on vignette 1	-.298*	.000
PO on vignette 2	-.194*	.013
PO on vignette 3	-.033	.681

Note. *Significant at .05

Source: Authors' work

DISCUSSION

This study used three vignettes from the POSTT instrument to find science teachers' and students' preferred orientations. We obtained data from 88 science teachers and 162 students conveniently selected from 25 middle schools. Almost 50% of students' responses were excluded due to a lack of familiarity with vignettes and multiple or incomplete responses. The first and second research questions aimed at exploring the pedagogical orientations of teachers and the preferred orientations of students. We found DD and AD orientations by both teachers and students for vignette 1. However, teachers also preferred GI for vignette 2 and vignette 3. Both teachers and students showed the least preference for OI orientation. The third research question inquired if there was a significant difference between teachers' PO and students' preferred orientation. The t-test result revealed a significant difference between teachers' PO and students' preferred orientation for vignettes 1 and 3 and no significant difference for vignettes 2. For the fourth research question, we found a positive correlation between science teachers' pedagogical orientations and their teaching experiences. The last research question inquired about the relationship

between students' preferred orientation and their academic achievement, for which a negative correlation was found for vignette 1 and vignette 3, and no significant correlation was found for vignette 2.

Generally, the teachers and the students preferred teacher-centered orientations consisting of DD and AD. Some participants also favored GI, while OI did not receive support from teachers and students in all three vignettes. This finding is aligned with Listiani and Adhani (2023) for science teachers in Indonesia. However, Bansiong (2023) found that Philippine teachers are more inclined towards inquiry orientations, probably due to recent reforms in science education. It was noted that the nature of the topic influenced teachers' choice of PO. While a teacher would choose DD for one topic, the same teacher might choose GI for others. Previous studies have also highlighted that the nature of the topic and subject matter influenced teachers' pedagogical choices due to different teaching objectives to teach a topic (Cansiz & Cansiz, 2016; Sahingoz, 2017). However, teachers tend to shift from didactic instruction to inquiry orientation when trained in science teaching methods (Thornburgh & Brown, 2023).

Most teachers supported GI (58.6%) for vignette 3, which was about force and motion. A possible reason might be the observation and application of force and motion in daily life and the available resources to demonstrate motions; thus, a guided inquiry might be more valuable and applicable. The participants' support for DD and AD in all the vignettes might be attributed to the traditional instructional style inherited as a colonial legacy (Faize, 2015), with the traditional lecture method as the most preferred methodology (Faize et al., 2024).

Another reason for teacher-centered orientations was our sample selection in this study. We collected data from government schools, with most students from slum areas and lower socio-economic status. This also influenced teachers' pedagogical choices toward traditional styles of instruction. The quality of students' classroom interaction, lower motivation, and feedback strongly influence and shape teachers' science teaching orientation. Friedrichsen and Dana (2005) support this contention that classrooms with active learners encourage science teachers to use inquiry approaches.

In addition, the nature of the curriculum and its content also offers a check on teachers' instructional practices. A curriculum with overloaded content restricts teachers toward teacher-centered instructional practices (Sahingoz, 2017). One reason might be the limited time to cover the loaded content (Zafar et al., 2022) and the lack of classroom resources (Dahar & Faize, 2011b). Indian science teachers also faced difficulty

practicing inquiry instruction due to a shortage of time. The teachers complained about the pressure to complete the course within the time frame, making them use didactic approaches (Nargund-Joshi et al., 2011). Ramnarain and Schuster (2014) also supported our findings by concluding that contextual factors like resource availability and class size affect teachers' PO toward teacher-centered approaches.

Teachers' POs were positively correlated with their teaching experience. Teachers with more teaching experience opted for GI, while novice teachers favored DD or AD approaches. Experience enables science teachers to learn from their mistakes, reflect on their classroom practices, and plan effective utilization of available school resources. Hence, as teachers' knowledge and experience increase, their ability to use student-centered approaches also improves (Feyzioğlu et al., 2016). Ramnarain and Schuster (2014) also found that African suburban teachers practiced guided and open inquiry practices because they were more confident and knowledgeable than township teachers.

Sahingoz and Cobern (2020) found that less experienced teachers had less variation in their PO and would choose AD or DD more frequently than inquiry approaches. However, the role and expectations of a school leader are also an influencing factor (Khwaja et al., 2022) in transforming classroom practices. The school principals in Pakistan expect their teachers to complete the course syllabus, thus forcing them to use traditional instructional styles.

For students, a significant negative correlation was found between students' desired orientation and their academic performance in the general science subject for vignettes 1 and 2. Students with higher scores in general science preferred teacher-centered orientation (AD or DD). Considering the traditional instructional styles in Pakistan, where memorization and cramming are the most rewarding in examinations (Faize, 2022), a higher score does not represent higher academic abilities (Dahar et al., 2011). Moreover, students desirous of scoring high preferred an accessible mode of instruction instead of inquiry-based practices (Dahar et al., 2010). As the instruction styles dominate the assessment techniques, the examination questions frequently test memory skills instead of high-order thinking skills (Zaman et al., 2010). Thus, the findings of this study are consistent with the existing practices in Pakistan. This study suggests radical changes and improvements in teachers' preparation programs to train prospective science teachers in modern inquiry practices. The shift from traditional instruction styles to inquiry-based practices would also transform the assessment procedures and students' preferences in favor of inquiry-based orientations (Faize & Akhtar, 2020).

CONCLUSION

Science teachers and students in Pakistan prefer teacher-centered orientations instead of inquiry approaches. This kind of preference is not specific to Pakistan. Rather, similar findings are also reported in

other countries, including Indonesia, Turkey, and Germany. The teachers lack knowledge about how to teach through inquiry methods and are familiar with the lecture-based methods. This finding suggests a radical change in teacher education programs by training science teachers in inquiry practices. In addition, the instruction and assessment methods shall be transformed by discouraging memorization and emphasizing learner-centered experiences in developing countries. When analyzing the relationship between teachers' pedagogical orientations and students' desired orientations, it becomes evident that the teaching-learning paradigm cannot be universally applied. Examining the alignment between teachers' pedagogical views and practices and students' preferences highlights a multifaceted interaction that carries significant consequences for the efficacy of classroom instruction, student involvement, and overall educational achievements. It is worth mentioning that classrooms tend to flourish when there is congruence between these orientations, resulting in increased student motivation, enhanced comprehension, and a more cohesive educational atmosphere.

Implications of the Study

The instructional techniques science teachers use have a significant role in students' understanding and academic performance. Interactive teaching and student-centered classrooms create a more conducive learning environment and help improve students' academic achievements. This study highlighted the pedagogical

choices of science teachers in Pakistan, which were mostly teacher-centered. It is a concern for our teacher educators, educationists, and policymakers. There is a major shift worldwide towards student-centered teaching. The findings of this study are an eye-opener for our policymakers and teacher training institutes to focus on training prospective science teachers in student-centered pedagogical orientations. Furthermore, science students preferred teacher-centered approaches over inquiry. Rather, there was a negative correlation between students' academic achievement and pedagogical orientations. This means that students with higher grades prefer a teacher-centered orientation. A possible reason for this choice is that inquiry orientations require greater effort and work on the part of students, which students do not welcome. The students used rote learning to get good grades. This approach needs to be changed by discouraging rote learning and giving credit to creativity and critical thinking in science assessment. The researchers hope the revised science curriculum will focus on reforming the science teaching and assessment techniques, thereby creating students' interest in innovative thinking, knowledge generation, and its application in everyday life.

Limitations and Recommendations for Future Research

This study is not without limitations. First, we used a quantitative approach to explore PO, which provided a limited understanding

of the reasons for choosing that specific orientation. Conducting a semi-structured interview to explore the reasons for choosing a specific orientation will provide a greater understanding of the pedagogical choices. Secondly, we relied on students' scores in the mid-term examination in the sampled schools. This again has limitations due to variability in teachers' quality, test items, available resources, and mental abilities. Future studies may consider these limitations for a more reliable relationship between the quantitative variables. Lastly, we collected data from middle schools in the Peshawar district, a developing district. Future researchers may conduct similar studies at the secondary level or college level and also in the advanced urban areas of Pakistan to further explore teachers' POs and students' desired orientations.

ACKNOWLEDGEMENTS

The researchers are indebted to Professor Dr. William W. Cobern of Mallinson Institute for Science Education, Western Michigan University, USA, for his support and permission to use the POSTT instrument in this study. Further, the data collection for this research was funded by The Higher Education Commission Pakistan through NRP project Award number 2014535/NRP/R&D/HEC/20212021.

REFERENCES

- Anderson, C., & Smith, E. (1987). Teaching science. In V. Richardson-Koehler & D. C. Berliner (Eds.), *Educators' handbook: A research perspective* (pp. 84–111). Longman.

- Bansiong, A. J. (2023). Direct or inquiry? Science teaching orientations of prospective secondary science teachers. *Mountain Journal of Science and Interdisciplinary Research*, 83(1), 34-49.
- Boesdorfer, S., & Lorsbach, A. (2014). PCK in action: Examining one chemistry teacher's practice through the lens of her orientation toward science teaching. *International Journal of Science Education*, 36(13), 2111-2132. <https://doi.org/10.1080/09500693.2014.909959>
- Cansiz, N., & Cansiz, M. (2016). Preservice science teachers' orientations towards teaching science to middle schoolers. *Online Submission*, 7(3), 69-78.
- Cobern, W. W., Schuster, D., Adams, B., Skjold, B. A., Muğaloğlu, E. Z., Bentz, A., & Sparks, K. (2014). Pedagogy of science teaching tests: Formative assessments of science teaching orientations. *International Journal of Science Education*, 36(13), 2265-2288. <https://doi.org/10.1080/09500693.2014.918672>
- Dahar, M. A., & Faize, F. A. (2011a). Effect of the availability and the use of instructional material on academic performance of students in Punjab (Pakistan). *Middle Eastern Finance and Economics*, 11, 6-18.
- Dahar, M. A., & Faize, F. A. (2011b). Effect of the availability and the use of science laboratories on academic achievement of students in Punjab (Pakistan). *European Journal of Scientific Research*, 51(2), 193-202.
- Dahar, M. A., Dahar, R. A., Iqbal, M. Z., & Faize, F. A. (2010). Impact of the per pupil expenditures on academic achievement of students at the secondary stage in Punjab (Pakistan). *International Research Journal of Finance and Economics*, 52(52), 122-133.
- Dahar, M. A., Dahar, R. T., Dahar, R. A., & Faize, F. A. (2011). Impact of the prior school environment on academic achievement of students at the secondary stage in Punjab (Pakistan). *European Journal of Social Sciences*, 19(1), 106-113.
- Faize, F. A., & Akhtar, M. (2020). Addressing environmental knowledge and attitude in undergraduate students through scientific argumentation. *Journal of Cleaner Production*, 252, 1-8. <https://doi.org/10.1016/j.jclepro.2019.119928>
- Faize, F. A. (2011). *Problem and prospect of science education at secondary level in Pakistan* [Unpublished doctoral dissertation]. International Islamic University.
- Faize, F. A. (2015). Introducing argumentation at higher education in Pakistan-A new paradigm of teaching ethic-based topics. *FWU Journal of Social Sciences*, 9(1), 8-13.
- Faize, F. A. (2022). Assessing science teachers' understanding about the nature of scientific inquiry and its reflection in students' responses using the VASI questionnaire. *International Journal of Science Education*, 44(14), 2224-2240 <https://doi.org/10.1080/09500693.2022.2116959>
- Faize, F. A., Akhtar, M., & Hamayun, M. (2024). Developing persuasive writing skills through scientific argumentation using a time-series design. *Revista de Investigación Educativa*, 42(1), 131-146. <https://doi.org/10.6018/rie.543991>
- Faize, F. A., Idress, S., & Sohail, M. (2023). Assessing mental health literacy in Pakistani youth using case-vignettes. *Mental Health Review Journal*, 28(1), 33-45. <https://doi.org/10.1108/MHRJ-05-2022-0028>
- Feyzioğlu, E. Y. (2015). Pre-service science teachers' pedagogical orientations of science inquiry continuum. *Batu Anadolu Eğitim Bilimleri Dergisi*, 6(11), 1-36.
- Feyzioğlu, E. Y., Feyzioğlu, B., & Demirci, N. (2016). Aktif doğrudan veya yapılandırılmış buluş: fen bilimleri öğretmenlerinin fen öğretimi yönelimlerinin belirlenmesi [Active direct or structured discovery: Determining science teachers' science teaching orientations]. *Mehmet Akif Ersoy Üniversitesi Eğitim Fakültesi Dergisi*, 1(39), 150-173. <https://doi.org/10.21764/efd.49128>
- Friedrichsen, P., & Dana, T. M. (2005). A substantive-level theory of highly regarded secondary biology

- teachers' science teaching orientations. *Journal of Research in Science Teaching: The Official Journal of the National Association for Research in Science Teaching*, 42(2), 218–244. <https://doi.org/10.1002/tea.20046>
- Friedrichsen, P. M., & Dana, T. M. (2003). Using a card-sorting task to elicit and clarify science-teaching orientations. *Journal of Science Teacher Education*, 14(4), 291–309. <https://doi.org/10.1023/B:JSTE.0000009551.37237.b3>
- Friedrichsen, P. M., & Dana, T. M. (2005). Substantive-level theory of highly regarded secondary biology teachers' science teaching orientations. *Journal of Research in Science Teaching*, 42(2), 218–244. <https://doi.org/10.1002/tea.20046>
- Güven, D., Mugaloglu, E. Z., Dogaça-Küçük, Z., & Cobern, W. W. (2019). Teaching orientations of freshman pre-service science teachers. *Journal of Turkish Science Education*, 16(4), 508–520. <https://doi.org/10.36681/tused.2020.4>
- Khawaja, T., Zafar, A. M., & Faize, F. A. (2022). Accidental leaders: Experiences and perspectives of higher education leaders in Pakistan. *International Journal of Educational Leadership and Management*, 10(2), 168–194. <https://doi.org/10.17583/ijelm.8440>
- Listiani, L., Cobern, W. W., & Pleasants, B. A. (2019). An Indonesian translation and adaptation of the POSTT: A science teacher pedagogical orientation, formative assessment device. *Journal of Research in Science, Mathematics and Technology Education*, 2(3), 135–149. <https://doi.org/10.31756/jrsmte.231>
- Listiani, L., & Adhani, A. (2023). Profiling the preservice biology teachers' teaching orientations: Challenges of 21st century learning. *Scientiae Educatia: Jurnal Pendidikan Sains*, 12(1), 77–88.
- Loughran, J., Mulhall, P., & Berry, A. (2008). Exploring pedagogical content knowledge in science teacher education. *International Journal of Science Education*, 30(10), 1301–1320. <https://doi.org/10.1080/09500690802187009>
- Magnusson, S., Krajcik, J., & Borko, H. (1999). Nature, sources, and development of pedagogical content knowledge for science teaching. In J. Gess-Newsome & N. G. Lederman (Eds.), *Examining pedagogical content knowledge* (pp. 95–132). Springer. https://doi.org/10.1007/0-306-47217-1_4
- Mavuru, L., & Ramnarain, U. (2018). Relationship between teaching context and teachers' orientations to science teaching. *EURASIA Journal of Mathematics, Science and Technology Education*, 14(8), Article em1564. <https://doi.org/10.29333/ejmste/91910>
- Nargund-Joshi, V., Rogers, M. A. P., & Akerson, V. L. (2011). Exploring Indian secondary teachers' orientations and practice for teaching science in an era of reform. *Journal of Research in Science Teaching*, 48(6), 624–647. <https://doi.org/10.1002/tea.20429>
- Ramnarain, U., & Schuster, D. (2014). The pedagogical orientations of South African physical sciences teachers towards inquiry or direct instructional approaches. *Research in Science Education*, 44(4), 627–650. <https://doi.org/10.1007/s11165-013-9395-5>
- Renee'S, S., Schuster, D., Cobern, W., Applegate, B., Titrek, O., & Iskender, M. (2010). Assessing teachers' orientations toward inquiry science teaching: Instrument development and international collaboration. In G. Cakmakci & M. F. Taşar (Eds.), *Contemporary science education research: Learning and assessment* (pp. 235–246). ESERA.
- Revathi, S., & John, S. (2019). Learning preferences transformation in tertiary education. *International Journal of Recent Technology and Engineering*, 8(2S), 215–220.
- Sahingoz, S. (2017). *An investigation of Turkish middle school science teachers' pedagogical orientations towards direct and inquiry instructional approaches* [Doctoral dissertation, Western Michigan University]. <https://www.proquest.com/openview/36262c9303af4f79dfd2cdcf6c5ff2b/1?pq-origsite=gscholar&cbl=18750>
- Sahingoz, S., & Cobern, W. W. (2020). Science methods course influence on pedagogical orientations of

- pre-service science teachers. *Educational Policy Analysis and Strategic Research*, 15(1), 114–136. <https://doi.org/10.29329/epasr.2020.236.7>
- Thornburgh, W., & Brown, S. (2023). Measuring pre-service elementary teachers' changes in pedagogical orientation towards science teaching. *Kentucky Journal of Excellence in College Teaching & Learning*, 19, 104-118.
- Zafar, A., Zafar, M. A., Faize, F. A., & Ahmad, R. H. (2022). Understanding teacher identity and perceptions of action research as a professional development tool in Pakistan. *Journal of Education*, 204(1), 107-117. <https://doi.org/10.1177/00220574221106753>
- Zaman, A., Niwaz, A., Faize, F. A., Dahar, M. A., & Alamgir. (2010). Analysis of multiple-choice items and the effect of items' sequencing on difficulty level in the test of mathematics. *European Journal of Social Sciences*, 17(1), 61–67.

Appendix A: Vignettes of the POSTT instrument

1. Air is matter

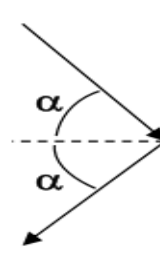
Your teacher wants to teach the topic of air matter. She is planning to introduce the topic by asking questions in the class. As a student, which of the following is your preferred choice for your teacher to teach this topic?



- A. The teacher shall ask us to think up ways to test if the air is a matter using whatever equipment we have in the classroom. She should then allow us to go ahead and try other ideas ourselves. (4)
- B. The teacher should help us develop ways to test whether air is matter, allow us to investigate with fans, and then use our findings to conclude whether it is a matter. (3)
- C. The teacher should tell us directly whether air is a matter and how we can feel it. The teacher can ask us to use fans in our classroom to find evidence about whether air is a matter. (2)
- D. The teacher should tell us directly whether air is a matter or not and how we can feel it. The teacher shall demonstrate to us whether it is a matter or not. (1)

2. Light reflection

Your teacher wants to teach the reflection of light and its bending from the surface of a mirror. Which ways do you prefer to be taught this topic by your teacher?

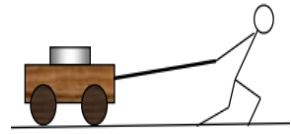


- A. The teacher should write about reflection on the board and then illustrate with a diagram. Next, the teacher shall show us a real example using a light ray source, mirror, and protractor. (1)
- B. The teacher should ask us to investigate ourselves about light behavior around mirrors. The teacher shall provide us with the relevant items to conduct this investigation. Afterward, we would tell the teacher what we did and found. (4)
- C. The teacher shall ask us questions about light reflection. Then, we should be allowed to investigate ourselves in the reflection of light. The teachers shall conclude the topic by giving us a summary. (3)
- D. The teacher shall write the law of reflection on the board and illustrate it with a diagram. Then, the teacher shall allow us to verify the law by providing relevant resources. (2)

3. Force and motion

The teacher wants to teach the relationship between force and motion. There is a law about this relationship. The classroom has a loaded wagon to which a pulling force can be applied. What is your preferred way to be taught this topic?

A. The teacher shall ask us questions about any relationship between force and motion. Then, we shall be allowed to freely use the available items to explore the relationship between force and motion. (4)



B. The teacher shall write the law on the board and explain it carefully. The teacher shall then give us the loaded wagon to verify the law ourselves. (1)

C. The teacher shall ask us questions about motion and force. Afterward, the teacher shall guide us to explore this safely in the lab, followed by a class discussion of our findings. (3)

D. The teacher shall write the law on the board and explain it carefully. The teacher shall then demonstrate the law to us for our understanding. (2)

Measuring Spatial Ability: Analysis of Spatial Ability Test for Gulf State Students Using Item Response Theory

Mohammed Al Ajmi^{1*}, Siti Salina Mustakim¹, Samsilah Roslan¹ and Rashid Almehrzi²

¹Faculty of Educational Studies, Universiti Putra Malaysia, 43400 Serdang, Selangor, Malaysia

²College of Education, Sultan Qaboos University, Alhouz, Muscat, Oman

ABSTRACT

This study evaluates the psychometric properties of the spatial ability test using the three-parameter logistic model within item response theory. The final version of the scale comprised 29 dichotomous items, administered to a sample of 2,694 male and female students from grades 5 and 6 across schools in the Arab Gulf region. The test adhered to the three-parameter model, satisfying the assumptions of unidimensionality and local independence. The item difficulty parameters ranged from -1.541 to 1.735, discrimination parameters spanned from 0.419 to 5.252, and guessing parameters varied between 0.00 and 0.346. With a marginal reliability coefficient of 0.86, the scale demonstrated strong stability. These findings indicate that the test items align with established measurement principles, supporting the spatial ability test as a valid and reliable assessment tool for measuring spatial abilities in the Gulf region. The results have important implications for educational assessment in the Arab Gulf and could guide the development of similar assessments in other educational contexts. Further research is recommended to improve the test's precision and explore its application in diverse educational settings.

Keywords: Item response theory, psychometric characteristics, reliability, spatial ability, three-parameter model

ARTICLE INFO

Article history:

Received: 21 October 2023

Accepted: 30 July 2024

Published: 02 December 2024

DOI: <https://doi.org/10.47836/pjssh.32.4.10>

E-mail addresses:

mohd7010@gmail.com (Mohammed Al Ajmi)

mssalina@upm.edu.my (Siti Salina Mustakim)

samsilah@upm.edu.my (Samsilah Roslan)

mehrzi@squ.edu.om (Rashid Almehrzi)

*Corresponding author

INTRODUCTION

Cognitive abilities encompass the mental processes and skills that allow individuals to gather, interpret, comprehend, and apply information. These abilities cover a range of thinking functions, including attention, memory, reasoning, problem-solving, and specific verbal, numerical, and spatial competencies. Cognitive ability is known in the literature by several names, such

as general mental ability and general intelligence (Carroll, 1993; Deary, 2020; Hunt, 2011; Jensen, 1998; Salgado, 2002). These abilities are foundational to learning and performing various tasks, influencing how effectively individuals can process and apply information in different contexts. Cognitive abilities significantly impact how individuals acquire and process information efficiently (Wong et al., 2023). Enhanced cognitive abilities enable quicker comprehension and more effective problem-solving, which are essential in academic and everyday settings.

Numerous studies have consistently demonstrated a positive correlation between cognitive abilities and academic achievement across a variety of subjects, including mathematics, reading, and science (Li et al., 2022). Students with stronger cognitive abilities tend to excel academically as their enhanced information processing, comprehension, and application skills contribute to better learning outcomes. Recognizing students' cognitive strengths and weaknesses allows educators to provide targeted interventions and individualized instruction, optimizing their learning potential and fostering academic achievement (Keenan & Meenan, 2014). This personalized approach helps maximize students' academic performance by addressing their specific needs and leveraging their cognitive strengths.

Spatial ability is regarded as one of the key cognitive skills in mathematics, attracting significant interest from educators and specialists in curriculum development,

particularly in relation to mathematics and its teaching methodologies. Its active role is increasing through what mathematics relies on for the primary stage in solving the issue and learning the relationships and geometric shapes. Thurston defines it as the ability to visualize shapes and perceive their relationships. This ability appears in mental activity that depends on visualizing objects without changing their spatial position (Suleiman, 2010). In educational curricula, spatial ability is crucial for understanding and solving geometry problems, visualizing mathematical concepts, and interpreting data from graphs and charts. Incorporating spatial reasoning tasks in the curriculum helps students develop these skills, which are crucial for success in mathematics and other related disciplines (Uttal et al., 2013).

Studies have shown that individuals with strong spatial abilities often excel in geometry, physics, and engineering, where understanding spatial concepts and visualizing three-dimensional objects are essential (Uttal et al., 2013). These disciplines require the ability to mentally manipulate shapes and visualize spatial relationships, which are well-developed skills in individuals with strong spatial abilities. For example, in physics, students need to visualize forces and motions in three-dimensional space, while in engineering, they must design and interpret complex structures. By recognizing and nurturing students' spatial abilities, educators can employ teaching strategies emphasizing visualizations, hands-on activities, and spatial reasoning tasks to enhance their

understanding and achievement in spatially related disciplines. Also, research confirms that individuals with strong spatial abilities often perform well in various fields, such as academic achievement in mathematics and arithmetic, such as studying (Hallowell & Okamoto, 2015; Verdine, 2011; Weckbacher & Okamoto, 2014).

Due to the significance of spatial ability, the National Council of Teachers of Mathematics in the United States of America has recommended that educational programs from kindergarten to twelfth grade enable students to develop their spatial abilities through geometric content. This includes identifying locations, describing spatial relationships, spatial visualization, spatial reasoning, and geometric models to solve problems (National Council of Teachers of Mathematics, 2023). The council emphasizes that developing spatial skills is essential for students' mathematical understanding and problem-solving abilities. Integrating spatial reasoning into the curriculum helps students better grasp complex mathematical concepts and apply them in various contexts, thus enhancing their overall cognitive development and preparing them for advanced studies and careers in STEM fields.

Numerous research studies emphasize the significance of evaluating spatial ability in gifted individuals, suggesting that talent searches could enhance their selection criteria by incorporating spatial ability measures. This approach would broaden the scope of identifying intellectually capable youth, offering them educational

experiences in civil engineering, aviation, and mechanical sciences (Wai et al., 2009). Including spatial ability in gifted searches ensures that students with exceptional spatial skills are recognized and given opportunities to excel in areas where these abilities are crucial. This helps identify a more diverse group of gifted students and provides them with the resources and support needed to develop their unique talents further. (Lohman, 2005; Shea et al., 2001).

Understanding and measuring spatial ability is crucial, as it is associated with performance in STEM, where spatial reasoning and visualization skills are essential (Uttal et al., 2013). Students with strong spatial abilities can better understand complex scientific concepts, visualize engineering designs, and interpret data from graphs and models. Measuring spatial ability is important for assessing individuals' cognitive strengths and weaknesses in this domain. By identifying students with strong spatial abilities, educators can tailor instruction and provide enrichment opportunities that foster their skills and interest in STEM, ultimately contributing to their success and innovation in these areas. One commonly used spatial ability test is the Gulf Scale of Mental Abilities (GMMAS), developed by Alzayat et al. (2011).

The development of the scale is grounded on Thurstone's theory of Primary Mental Abilities, which is a significant and influential concept in the field of psychology. Developed by the American psychologist Louis Leon Thurstone in the

mid-20th century, this theory challenges the notion of a singular, unitary concept of intelligence. Instead, it proposes that intelligence can be broken down into several distinct “primary mental abilities,” each representing a specific facet of cognitive function (Thurstone theory of intelligence, 2023). These primary abilities encompass a wide range of skills, including mathematical reasoning, verbal comprehension, memory, spatial visualization, and perceptual speed. Thurstone’s work demonstrated that these mental abilities are relatively independent and can be measured separately, providing a more nuanced understanding of human cognitive functioning. This theory has had a lasting impact on the study of intelligence and continues to influence the field of psychology today (Gill et al., 2020). Understanding these primary abilities allows for a more detailed assessment of cognitive strengths and weaknesses, leading to more targeted and effective educational and psychological interventions.

The Gulf Scale of Mental Abilities (GMMAS) assesses various cognitive abilities, including spatial visualization. It provides a standardized and reliable measure to evaluate an individual’s spatial aptitude and compare it to a normative sample. Therefore, when designing scales, especially measures of cognitive and mental abilities, one of the two famous measurement methods is used: Item Response theory (IRT) and classical Test Theory (CTT), which was widely used in the twentieth century to try to avoid shortcomings in the test instrument (Jabrayilov et al., 2016).

The IRT and CTT are two foundational educational and psychological measurement approaches. CTT emphasizes the total test score, assuming all test items contribute equally to the final score. It views the observed score as a blend of the true score and random error but lacks the capacity to assess individual item characteristics. In contrast, IRT delves deeper into item-level analysis, proposing that the likelihood of correctly answering an item depends on the examinees’ latent ability and specific item attributes like difficulty, discrimination, and guessing. This framework allows a more detailed understanding of how each item influences the measurement process. Different IRT models, such as the one-parameter (1PL), two-parameter (2PL), and three-parameter (3PL) logistic models, provide a more accurate estimation of a person’s ability and offer richer insights into item performance (Embretson & Reise, 2000).

The main benefit of IRT compared to CTT is its capability to offer detailed insights into how items perform across different levels of ability, making it more effective in developing adaptive tests and providing accurate measurement across a wider range of abilities. Modern models in educational measurement, including IRT, offer more accurate indicators of item difficulty and discrimination when analyzed statistically, making them superior to CTT, which mainly depends on the overall score (Subali et al., 2021).

Given the reliance on classical measurement theory in the establishment and

standardization of psychological tests and scales used within the field of Humanities, particularly in the Arab and Gulf regions, and as a result of the emergence of some disadvantages associated with this theory, the idea came to use one of the modern models in measurement in order to know the most important psychometric characteristics achieved by one of the scales that was built in the light of classical theory.

Some students may get results that do not express their real abilities in a test. The reason for this may be due to a defect in the tool applied to them, whether it is in the low truthfulness and stability of this tool or it is in the difficulty or ease of paragraphs of this test, which may be higher or lower than their ability level, giving inaccurate results about the level of real ability that students possess. Despite the advantages of IRT, which would improve the accuracy of the scale results, the scale's psychometric properties have yet to be studied according to this theory. Therefore, the current research seeks to study psychometric properties of spatial ability in the Gulf Test of Mental Abilities (GMMES) based on the three-parameter model.

Therefore, the current research attempts to answer:

1. What psychometric characteristics are available in the Spatial Ability Test and its items according to the IRT?

Four questions arise from it:

1. To what extent are the assumptions of the IRT fulfilled in the spatial ability test data?
2. What is the suitability of the 3PL for the spatial ability test data?

3. What is the estimate of the three parameters of the items considering the 3PL?

4. How much information does the test provide at different ability levels?

METHODS

Participants

This study adopts a descriptive approach to examine the statistical features of the spatial ability test within GMMAS. The researcher utilizes secondary data from the GMMAS standardization conducted by the Arab Office for the Gulf States in 2011. The sample consists of fifth—and sixth-grade students aged between 9 and 12. The total sample includes 2,694 students, with 1,273 females and 1,416 males, all within the specified age range.

Developing the Item Bank for Spatial Ability

Measure

The research employs the spatial ability test from GMMAS, as developed by Alzayat et al. (2011). This evaluation comprises three independent exams designed to measure verbal, numerical, and spatial abilities.

The current investigation centers on the assessment dedicated to spatial ability, which consists of 30 multiple-choice questions. Spatial ability is measured by shape completion test (10 items), paper bending and unfolding test (10 items), and rotation test figure (10 items). In this evaluation, the right response is awarded one score, while an incorrect answer is

assigned a score of zero. Consequently, the cumulative score can range from 0 to 30.

It was confirmed through concurrent validity by knowing the correlation between the spatial ability test and the colored Raven matrix with the students of Kuwait. The value of the correlation between them for the fifth and sixth grades was 0.52 and 0.49, and it was statistically significant, which indicates the concurrent validity of the spatial test. Also, we verified the test's predictive validity by evaluating the correlation values between spatial ability and mathematical achievement across all Kuwaiti grade levels. At the 0.05 level of significance, the 0.163 value of the correlation values between spatial aptitude and arithmetic performance in fifth grade is significant. At the 0.05 level of significance, the value of the correlation values between spatial ability and mathematical performance in sixth grade is 0.178. Although the sample sizes in each discipline are relatively small, these values are still found to be significant.

The spatial ability test demonstrated strong reliability with a test-retest coefficient of 0.85. Internal consistency remained consistently high for spatial ability across all grade levels, as reflected in the Cronbach alpha coefficients, which ranged from 0.80 to 0.82 in the context of Gulf countries (Alzayat et al., 2011).

Item Response Theory assumptions

Unidimensionality

IRT is built on some assumptions that the researcher should verify before using it. The first of these assumptions

is unidimensionality, a fundamental assumption in IRT, which posits that the test items measure a single, dominant latent trait. In simpler terms, the test items are all related to a common underlying construct or ability and do not tap into multiple unrelated dimensions. The unidimensionality assumption is crucial in IRT because the precision of item parameter estimates and the authenticity of interpreting test scores largely depend on it. The results may be confounded and less interpretable if the test is not unidimensional.

Above all, the unidimensional model would be checked by confirmatory and exploratory confirmatory factor analyses were used to verify a unidimensional assumption. Two conditions must be met to establish unidimensionality during exploratory analysis. First, Reckase (1979) states that the dominant component should explain at least 20% of the variance. Second, Reeve et al. (2007) emphasized that the variance of the first factor should be at least four times that of the second factor. For the confirmatory factor, the following two indicators have been used: the Root Mean Square of Residuals (RMSEA) according to the specified criteria by Edelen and Reeve (2007) and Smits et al. (2011), which indicates a good fit when the RMSEA is 0.08 or less, and the Tanaka Index (GFI) which the criterion for a good fit value is 0.90, according to Tanaka and Huba (1985).

Local Independence (LI)

The second premise, LI, requires that item answers be independent. In other words,

once an examiner's latent trait level is known, their answer to one item should not predict their response to another beyond what is expected given the latent trait (Embretson & Reise, 2000). To assess this assumption, the researcher used a statistical measure proposed by Yen (1993), which calculates the correlation coefficient between the residuals of item pairs after adjusting for the individual's ability. The Local Dependence Indices for Dichotomous Items (LDID) software was utilized to test local independence in the spatial ability test. Typically, a critical threshold of 0.2 for the absolute value of Q3 is used as a benchmark (Chen & Thissen, 1997).

IRT Model Comparison

Once the item bank fulfills the unidimensionality and local independence assumptions, an appropriate IRT model must be chosen for parameter estimation. IRT models are selected based on the characteristics of the test items and the nature of the data. According to Jabrayilov et al. (2016) and Baker and Kim (2017), the suitability of different IRT models varies depending on the types of tests and their specific requirements.

One-Parameter Logistics Model (1PL or Rasch Model): This type assumes all items have equal discrimination and only estimates the difficulty parameter for each item. It is suitable for tests where all items are assumed to have similar discriminatory power (Uniform Discrimination Tests). It is common in educational assessments where items are designed to be equally challenging

across different difficulty levels. Also, it requires smaller sample sizes compared to more complex models, making it suitable for pilot studies or small-scale assessments.

Two-Parameter Logistics Model (2PL): Estimates each item's difficulty and discrimination parameters. Allows items to vary in how well they discriminate between individuals with different latent trait levels. This type is suitable for tests where items have varying abilities to discriminate between individuals (Variable Discrimination Tests). It is useful in tests covering a broad range of difficulties and is designed to distinguish between different ability levels. It is suitable for psychological tests where different items may have different levels of effectiveness in measuring the latent trait.

Three-Parameter Logistics Model (3PL): Estimates difficulty, discrimination, and guessing parameters and accounts for the possibility that some respondents may guess the correct answer. This type is suitable for multiple-choice tests where guessing can influence responses. It adjusts for the probability that a low-ability test-taker might guess an answer correctly. Also, it is used in assessments where the probability of guessing must be accounted for (Complex Assessments), such as certain types of aptitude or intelligence tests.

To determine the most suitable IRT model and assess its accuracy, four commonly applied model fit indices were used: the Akaike Information Criterion (AIC; Akaike, 1974), the Bayesian Information Criterion (BIC; Schwarz, 1978), Root Mean Square

Error of Estimates (RMSE), and the average information value. These metrics were utilized to evaluate how well each model fits the data, aiding in selecting the best-fitting model. Lower values for AIC, BIC, and RMSE suggest a better model fit. Model comparison and selection were conducted using the *mirt* R package (Chalmers, 2012) and BILOG-MG software.

Item Parameters Estimate

In IRT, key item parameters such as difficulty, discrimination, and guessing are determined through statistical models that map the relationship between an individual's latent ability and the probability of answering a given item correctly. The difficulty parameter (b) represents the point on the latent trait continuum where an individual has a 50% likelihood of providing the correct response. It is estimated using the Item Characteristic Curve (ICC), which shows how the probability of a correct answer changes with different levels of the latent trait (θ). The b-parameter is identified at the point where this probability reaches 0.50.

The discrimination parameter (a) reflects the effectiveness of an item in distinguishing between individuals with varying levels of the latent trait. A higher value of the discrimination parameter signifies that the item is more adept at differentiating between examinees whose abilities are closely matched—the estimation process of discrimination parameter (a) by Slope of ICC. The discrimination parameter is the slope of the ICC at the point of inflection (where the probability of a

correct response is 50%). The guessing parameter (c) represents the probability that an individual with a very low latent trait level will correctly guess the answer to an item. This parameter is particularly relevant for multiple-choice items where guessing can play a significant role—the estimation process of guessing parameter (c) by the Lower Asymptote of ICC. The guessing parameter is the lower asymptote of the ICC, indicating the probability of a correct response due to guessing (Baker & Kim, 2017; Jabrayilov et al., 2016).

This research utilized the *mirt* package (Version 1.24) in R to estimate item parameters. The software uses the Expectation A Posteriori (EAP) approach, which uses Bayesian estimation methods. Through the application of the three-parameter logistic model (3PL), the analysis provided estimates for item difficulty, discrimination, and the pseudo-guessing parameter.

Reliability

In the realm of IRT, marginal reliability emerges as a valuable metric for evaluating the reliability of test scores. This measure revolves around estimating reliability depending on the marginal distribution of the test scores, involving the analysis of item parameters and associated standard errors. Marginal reliability in IRT reflects the degree to which test scores are resilient to measurement error. Higher reliability coefficients indicate greater accuracy and consistency in the test scores, signifying that the assessment yields more reliable and precise measurements with minimal

error. A marginal reliability coefficient of 1 signifies perfect reliability, while a value closer to 0 suggests diminished reliability due to increased measurement error. It has significant implications for test interpretation, as it enables educators and psychologists to understand the strengths and limitations of test scores across the ability spectrum, leading to more targeted and effective interventions and support for test-takers (Embretson & Reise, 2000).

FINDINGS AND DISCUSSION

Psychometric Evaluation of the Spatial Ability Item Bank

Unidimensionality

To confirm the unidimensionality assumption of the test, the adequacy of the sample size was evaluated using the Kaiser-Meyer-Olkin (KMO) and Bartlett's tests. The analysis yielded a chi-square value of 10,208.063 with a significance level of 0.001 and 435

degrees of freedom, indicating that the sample size was sufficient for performing exploratory factor analysis. Subsequently, the analysis was conducted on the principal components of the correlation matrix for the 30 spatial ability items.

The results revealed four latent factors with eigenvalues exceeding one, collectively explaining 42.76% of the variance. The ratio of the eigenvalue of the first factor (4.70) to the second factor (1.82) was 2.58, surpassing the value of two, which supports unidimensionality as suggested by Reckase (1997, cited in Matarneh and Oalla, 2018). Moreover, the first factor accounted for 37.26% of the total variance, satisfying Reckase's recommended 20% threshold for a unidimensional test.

Furthermore, Cattell's scree plot (1966) for the 30-item factor analysis confirmed the test's unidimensionality, as the first factor was clearly distinct from the remaining factors (Figure 1).

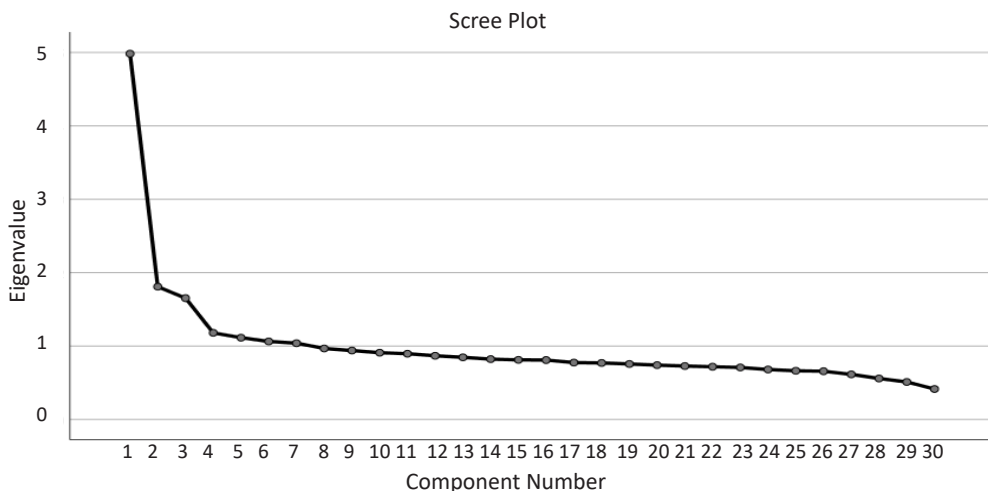


Figure 1. Factor scree plots from principal component analysis of 30 item

Source: Authors' work

Confirmatory Factor Analysis (CFA) was conducted using the AMOS software to compute the Root Mean Square Error of Approximation (RMSEA) and the Goodness of Fit Index (GFI). The factor loadings of the observed variables on a single latent parameter, along with the residual error

values, are shown in the CFA results. The analysis produced an RMSEA value of 0.054, which meets the standards set by Edelen and Reeve (2007) and Smits et al. (2011). Additionally, the GFI was calculated at 0.90, indicating a good model fit (Figure 2).

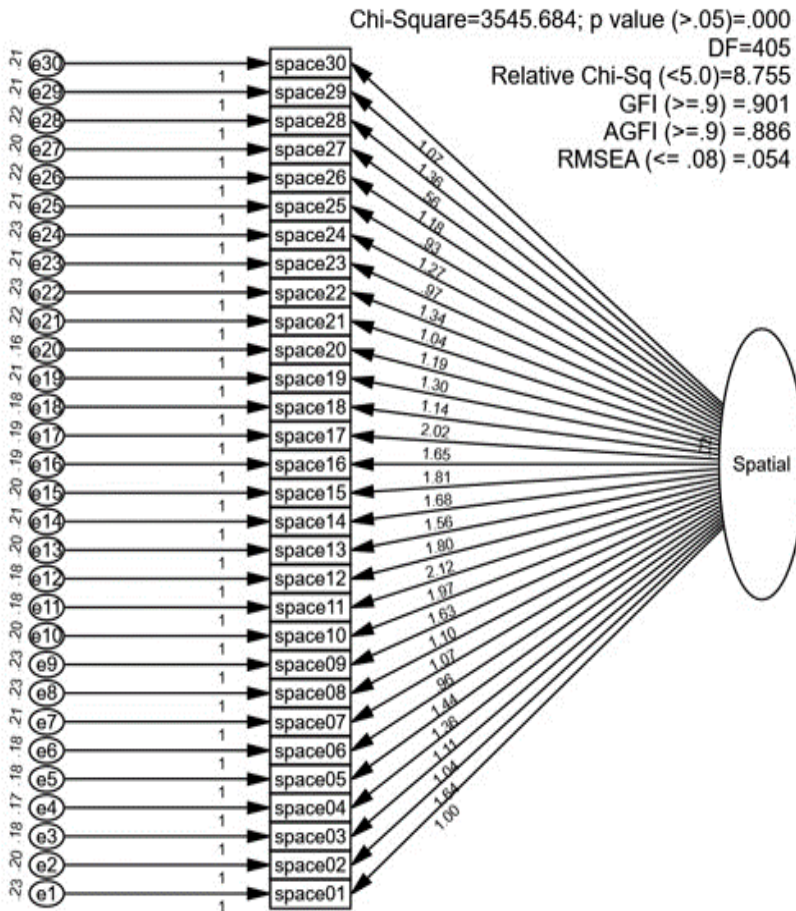


Figure 2. Confirmatory factor analysis for spatial ability
 Source: Authors' work

Local Independence

In the 3PL model, local independence was assessed using Q3 statistics. Table 1 summarizes the Q3 values for the test.

The results demonstrate that the mean Q3 value is 0.045, significantly lower than the critical threshold of 0.2. Furthermore, 99.8% of item pairs in the spatial test met the local independence criteria. Only one

Table 1
Indicators of local independence according to Item Response Theory

Ability	No. of test items	items pair	Maximum	Minimum	Mean of Q3
Spatial	30	435	0.44	0.0002	0.045

Source: Authors' work

pair of items (items 2 and 10) exceeded the threshold with a value of 0.44, while all other pairs had values below 0.198. These findings support the notion that the spatial ability test items are largely locally independent.

IRT Model Comparison

We find a compilation of the model fit indices, aiding us in selecting the optimal model for the spatial ability test data (Table 2).

Table 3 clearly indicates that 3PL, which accounts for difficulty, discrimination, and guessing parameters, is the fit model for the spatial test data (Table 3).

Table 2
The indicator values used to select the appropriate model for the spatial ability test data

S	Indicators	Model		
		1PL	2PL	3PL
1	AIC	100088.91	99490.96	99168.61
2	BIC	100271.82	99844.87	99699.47
3	Average Test Information	3.970	4.621	5.678
4	RMSE	0.4524	0.4285	0.4626
5	Reliability Index	0.799	0.822	0.850

Note. 1PL, one parameter logarithmic model; 2PL, two-parameter logarithmic model; 3PL, three-parameter logarithmic mode; AIC, Akaike' information criterion; BIC, Bayesian information criterion; RMSE, root mean Square Error

Source: Authors' work

Item Parameters Estimate

The item difficulty parameters range from -1.541 for item 3 to 1.735 for item 19. The average difficulty is 0.450, with a standard deviation of 1.038, indicating that most test items fall within a moderate difficulty level (Table 3). The Item Characteristic Curves for item 3 (the least difficult) and item 19 (the most difficult) are displayed in Figure 3.

Table 3 depicts details, showcasing the item discrimination parameters spanning

from 0.419 to 5.252 for items 28 and 23, respectively. Moreover, the mean item discrimination parameter stands at 1.554 with a standard deviation of 1.308, signifying the highest discrimination value. Item Characteristic Curves for item 28, which has the lowest discrimination value, and item 23, which achieved the highest discrimination value, are presented in Figure 4.

Table 3
Item statistics based on the 3PL model

3PLM									
Item	a	b	c	IIC	Item	a	b	c	IIC
1	0.435	0.0202	0.012	0.046	16	0.805	0.8193	0.000	0.162
2	0.859	-0.299	0.000	0.184	17	0.807	1.2152	0.019	0.157
3	0.665	-1.541	0.000	0.11	18	0.973	0.6957	0.001	0.236
4	0.726	-1.471	0.005	0.13	19	0.831	1.7345	0.139	0.132
5	0.856	-1.021	0.000	0.183	20	1.058	1.6001	0.042	0.257
6	0.89	-0.919	0.000	0.198	21	4.241	1.4076	0.325	2.269
7	0.431	-1.302	0.006	0.046	22	3.558	1.3559	0.346	1.586
8	0.534	-0.307	0.000	0.071	23	5.252	1.3257	0.277	4.044
9	0.514	0.0304	0.004	0.066	24	2.022	1.5692	0.31	0.559
10	0.818	-0.172	0.000	0.167	25	4.001	1.3561	0.253	2.445
11	1.397	-0.08	0.08	0.417	26	2.681	1.5003	0.284	1.039
12	1.264	-0.012	0.000	0.399	27	2.477	1.4654	0.202	1.04
13	0.954	0.2015	0.047	0.207	28	0.419	1.4683	0.005	0.043
14	0.737	0.2084	0.000	0.136	29	2.746	1.3301	0.258	1.144
15	0.805	-0.238	0.000	0.162	30	2.865	1.5642	0.247	1.26

Note. a: Discrimination parameter; b: Difficulty parameter, IIC: Maximum item information curve
Source: Authors' work

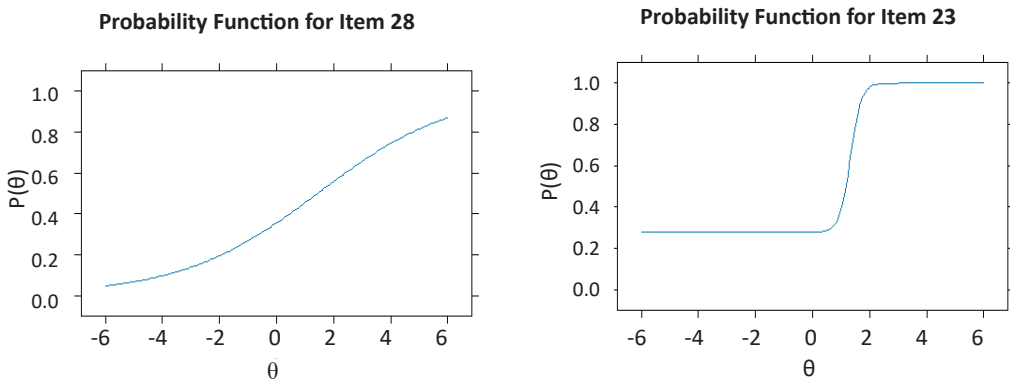


Figure 4. Item characteristic curves for items 28 and 23
Source: Authors' work

The guessing parameters for the items range from 0.000 for item 10 to a notable 0.346 for item 21. The average guessing parameter is 0.096, with a standard deviation of 0.127, indicating minimal dependence on guessing when responding to the test items.

These results suggest that examinees seldom employed guessing strategies (Table 3). Furthermore, the characteristic curves for item 10, with the lowest guessing value, and item 21, with the highest guessing value, are displayed in Figure 5.

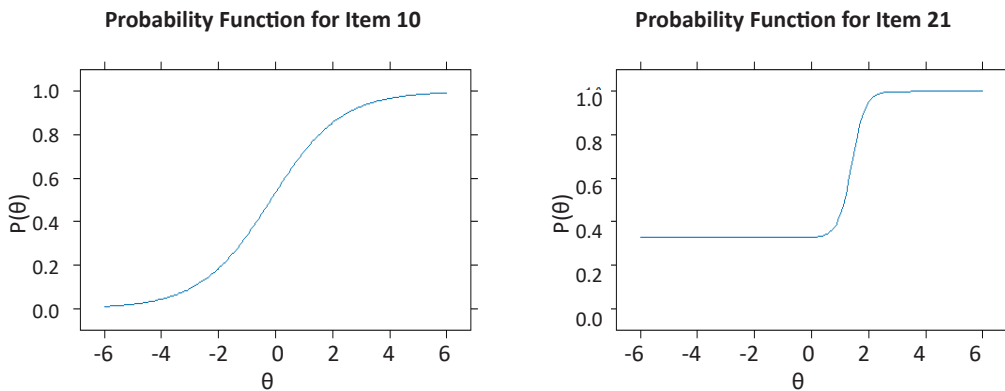


Figure 5. Item characteristic curves for items 10 and 21
Source: Authors' work

We discern that the test items offer varying degrees of information, with values ranging from 0.043 to 4.044. Item 28 yields the least amount of information, starkly contrasting with item 23, which presents

the highest information content (Table 3). To grasp these insights visually, the item information curves for items 28 and 23 (Figure 6).

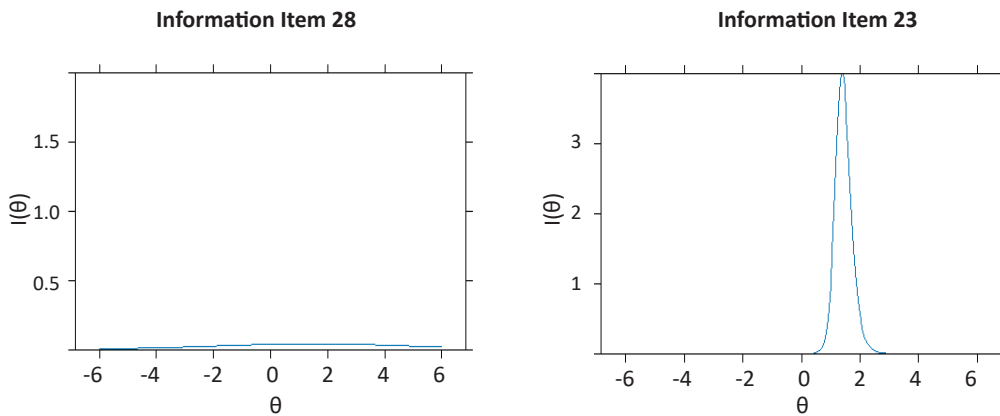


Figure 6. Item information curve of the items 28 and 23
Source: Authors' work

Reliability

The spatial ability test is highly reliable in precisely estimating individuals' abilities, as seen by its obtained marginal reliability of 0.86.

DISCUSSION

This study aims to assess the spatial ability test's psychometric qualities. The Gulf version was given to 2694 students from six nations in a random sample. The test's validity and measurement accuracy

depend heavily on the assessment of IRT presumptions. Within the framework of a spatial ability test, this study investigates two fundamental assumptions of IRT: unidimensionality and local independence. The results indicated that the spatial ability test adhered to the unidimensionality assumption. The data supported the presence of a single underlying factor influencing the test responses, which validates the use of unidimensional IRT models for this test, ensuring that the spatial ability construct is consistently measured across all items. As for the second assumption, local independence, the results showed that this assumption was generally met across the test items. However, there was one exception: a particular item exhibited dependency on other items, violating the local independence assumption. The problematic item was removed from the analysis to maintain the integrity of the IRT model. This dependency could stem from factors such as similar content or overlapping skills required to answer the items. Identifying and addressing such violations is crucial because they can lead to biased estimates of item parameters and latent traits.

The results presented in this investigation unveil the superior performance of the 3PL over the one-parameter logarithmic model (1PL) and the two-parameter logarithmic model (2PL) in evaluating the spatial ability test. This advantage of the 3PL model can be attributed to the multiple-choice format of the test questions, which, as asserted by Haladyna and Downing (2004), is widely employed in educational institutions. It

is possible to estimate examinees' ability parameters accurately by adopting a model that takes into account the three parameters of difficulty, discrimination, and guessing. Incorporating the guessing parameter in the 3PL model effectively accounts for this behavior, leading to a better fit for the data. This observation aligns with earlier research conducted by Fu (2010) and Gao (2011).

The researcher highlights key findings from calibrating items in the spatial ability test, notably the variation in item difficulty levels. Despite this variation, the average difficulty parameter (0.450) suggests that the items, overall, fall within the medium difficulty range. This result carries important implications for both test design and test-taker performance. The test comprehensively evaluates test-taker abilities by incorporating a balanced mix of easy, medium, and difficult items. It effectively challenges fifth and sixth-grade students by presenting a well-balanced array of item difficulties. This outcome is consistent with measurement theory, which underscores the necessity of including items with varying difficulty levels to accurately assess test-takers abilities.

The analysis of the item discrimination parameter reveals that most test items show high discrimination. High discrimination values indicate that these items effectively distinguish between test-takers with varying ability levels, which is crucial for the precision and accuracy of the assessment. This desirable characteristic enhances the validity of the test by ensuring that it accurately reflects differences in abilities.

The findings suggest that the test items successfully differentiate between higher- and lower-performing students, thereby improving the overall reliability and effectiveness of the assessment.

Additionally, the low values of the guessing parameter indicate that test-takers are not significantly reliant on random guessing while responding to the items. It indicates that the items are carefully constructed to minimize the likelihood of guessing, thereby allowing the test to more accurately capture test-takers true abilities. It contributes to the overall validity and reliability of the test.

Examining the item information curves shows a considerable variation in the information provided by the spatial ability test items, ranging from 0.043 to 4.044. This variation underscores the items' capacity to effectively distinguish between individuals with varying latent trait levels. The diverse range of information values delivers key insights into the precision and discriminatory power of the test across different ability levels. Such data enables test developers and researchers to pinpoint items that offer the most meaningful information, assess the test's overall measurement accuracy, and make informed decisions regarding item selection, refinement, or elimination to optimize the test's reliability and effectiveness. Additionally, items with high information values at specific ability levels can be strategically targeted to improve the test's sensitivity within those ranges. This process leads to a more balanced and diagnostically effective tool

capable of accurately assessing spatial abilities across diverse individuals.

CONCLUSION

This research explored the psychometric characteristics of the Spatial Ability Test using item response theory. The findings affirm that the test items are effectively designed, displaying moderate difficulty levels, strong discriminatory power, and limited dependence on guessing. These results emphasize careful construction and precision embedded in the test's development.

The study holds several theoretical implications as it makes a significant contribution to our comprehension of IRT and its application in assessments and measurements within the Gulf countries. Moreover, it advances our understanding of methodologies for evaluating cognitive abilities, ultimately guiding us toward enhancing assessment and measurement procedures. From a practical perspective, this study can serve as a blueprint for enhancing the quality of the spatial ability test for fifth and sixth-grade students by furnishing actionable recommendations for refining and enhancing the test items. Furthermore, it significantly contributes to improving the accuracy of estimating students' spatial abilities by utilizing IRT and focusing on the psychological attributes of the test.

The study's findings offer several practical applications for enhancing spatial ability assessments. By identifying high-quality test items with strong discriminatory

power, developers can refine the item pool, ensuring a more accurate and reliable measure of spatial ability. Educators can use these refined tools to create targeted intervention programs, addressing specific strengths and weaknesses in students. It leads to personalized learning approaches that optimize student outcomes in spatially demanding subjects like mathematics and engineering. Additionally, the insights from IRT facilitate the transition to computerized adaptive testing (CAT), which tailors the test to each individual's ability level, making the assessment more efficient and reducing test-taking time. CAT also conserves resources, allowing for more frequent and less burdensome testing. Furthermore, these refined assessments can guide curriculum development and educational policy, ensuring that programs support the development of spatial skills. The study's findings can significantly improve spatial ability assessments' accuracy, efficiency, and effectiveness by leveraging these practical applications.

While the current findings generally provide positive indications for the psychometric characteristics of the spatial ability test, it is essential to acknowledge several limitations. First, the findings presented in this research relied on a smaller set of 29 items compared to the larger item banks commonly employed in IRT. Expanding the item bank could further enhance the benefits of administering the spatial ability test, offering greater precision and flexibility in assessing a wider range of abilities. Second, the conclusions drawn

in the current study relied exclusively on a dichotomous item response model, which involves binary outcomes (correct or incorrect). To gain deeper insights, future investigations on the spatial ability test could benefit from a comparative analysis involving both dichotomous and polytomous IRT models. In light of these limitations, the study suggests that future research should promptly expand the spatial ability test's item repository, encompassing a multitude of items, potentially reaching into the hundreds, to cover the entire spectrum of abilities from -4 to +4. Additionally, incorporating a diversity of test questions, including multiple-choice and open-ended questions, would allow for measuring spatial ability according to multiple IRT models.

ACKNOWLEDGMENTS

We thank the Arab Bureau of the Gulf States for approving the GMMAS scale and benefiting from the data collected. We also thank those concerned with the Universiti Putra Malaysia for their support.

REFERENCES

- Akaike, H. (1974). A new look at the statistical model identification. *Automatic Control IEEE Trans*, 19, 716–723. <https://doi.org/10.1109/TAC.1974.1100705>
- Alzayat, F., Almahrazi, R., Arshad, A., Fathi, K., Albaili, M., dogan, A., Asiri, A., Hadi, F., & Jassim, A. (2011). *Technical report of the Gulf Scale for Multiple Mental Abilities (GMMAS)*. Arab Gulf University.
- Baker, F. B., & Kim, S. (2017). *The basics of Item Response Theory using R*. Springer. <https://doi.org/10.1007/978-3-319-54205-8>

- Carroll, J. B. (1993). *Human cognitive abilities*. Cambridge University Press. <https://doi.org/10.1017/cbo9780511571312>
- Chalmers, R. P. (2012). mirt: A Multidimensional Item Response Theory Package for the R environment. *Journal of Statistical Software*, 48(6). <https://doi.org/10.18637/jss.v048.i06>
- Chen, W. H., & Thissen, D. (1997). Local dependence indexes for item pairs using Item Response Theory. *Journal of Educational and Behavioral Statistics*, 22(3), 265–289. <https://doi.org/10.3102/10769986022003265>
- Deary, I. J. (2020). *Intelligence: A very short introduction*. Oxford University Press. <https://doi.org/10.1093/actrade/9780198796206.001.0001>
- Edelen, M. O., & Reeve, B. B. (2007). Applying Item Response Theory (IRT) modeling to questionnaire development, evaluation, and refinement. *Quality of Life Research*, 16(S1), 5–18. <https://doi.org/10.1007/s11136-007-9198-0>
- Embretson, S. E., & Reise, S. P. (2000). *Item Response Theory for psychologists*. Psychology Press. <https://doi.org/10.4324/9781410605269>
- Fu, Q. (2010). *Comparing Accuracy of parameter estimation using IRT Models in the presence of guessing* [Unpublished doctoral dissertation]. University of Illinois at Chicago.
- Gao, S. (2011). *The exploration of the relationship between guessing and latent ability in IRT models* [Unpublished doctoral dissertation]. University of Southern Illinois.
- Gill, P., Marrin, S., & Phythian, M. (2020). *Developing intelligence theory: New challenges and competing perspectives*. Routledge. <https://doi.org/10.4324/9780429028830>
- Haladyna, T. M., & Downing, S. M. (2005). Construct-irrelevant variance in high-stakes testing. *Educational Measurement: Issues and Practice*, 23(1), 17–27. <https://doi.org/10.1111/j.1745-3992.2004.tb00149.x>
- Hallowell, D., Okamoto, Y., Romo, L. F., & La Joy, J. R. (2015). First-graders' spatial-mathematical reasoning about plane and solid shapes and their representations. *Zdm – Mathematics Education*, 47(3), 363–375. <https://doi.org/10.1007/s11858-015-0664-9>
- Hunt, E. (2011). *Human intelligence*. Cambridge University Press.
- Jabrayilov, R., Emons, W. H. M., & Sijtsma, K. (2016). Comparison of classical test theory and item response theory in individual change assessment. *Applied Psychological Measurement*, 40(8), 559–572. <https://doi.org/10.1177/0146621616664046>
- Jensen, A. R. (1998). *The G factor: The science of mental ability*. Praeger. <https://www.amazon.com/Factor-Science-Evolution-Behavior-Intelligence/dp/0275961036>
- Keenan, T. D., & Meenan, C. E. (2014). Using cognitive predictors to identify response to intervention groups. *Journal of Learning Disabilities*, 47(4), 348–360.
- Li, Y., Zhang, Y., Dai, D., & Hu, W. (2022). The role of cognitive abilities and self-control in high school students' academic performance: Evidence from Chinese compulsory education. *Journal of Educational Psychology*, 114(7), 1553-1566. <https://doi.org/10.1037/edu0000701>
- Lohman, D. F. (2005). The role of nonverbal ability Tests in identifying academically gifted Students: An Aptitude perspective. *Gifted Child Quarterly*, 49(2), 111–138. <https://doi.org/10.1177/001698620504900203>
- Matarneh, A. J., & Oalla, B. M. (2018). Differential item functioning of the test subjects in the English language course administered to students of Mu'tah University. *Journal of Educational and Psychological Sciences*, 19(2), 449-475. <https://doi.org/10.12785/jeps/190215>
- National Council of Teachers of Mathematics. (2023). *Principles and standards for school mathematics*. <https://www.nctm.org/Standards-and-Positions/Principles-and-Standards/>
- Reckase, M. D. (1979). Unifactor latent trait models applied to multifactor tests: Results and implications. *Journal of Educational Statistics*, 4(3), 207–230. <https://doi.org/10.2307/1164671>

- Reeve, B. B., Hays, R. D., & Bjørner, J. B. (2007). Psychometric evaluation and calibration of health-related quality of life item banks. *Medical Care*, 45(5), S22–S31. <https://doi.org/10.1097/01.mlr.0000250483.85507.04>
- Salgado, J. F. (2002). The big five personality dimensions and counterproductive behaviors. *International Journal of Selection and Assessment*, 10(1 & 2), 117–125. <https://doi.org/10.1111/1468-2389.00198>
- Schwarz, G. (1978). Estimating the dimension of a model. *Annals of Statistics*, 6(2). <https://doi.org/10.1214/aos/1176344136>
- Shea, D. L., Lubinski, D., & Benbow, C. P. (2001). Importance of assessing spatial ability in intellectually talented young adolescents: A 20-year longitudinal study. *Journal of Educational Psychology*, 93(3), 604–614. <https://doi.org/10.1037/0022-0663.93.3.604>
- Smits, N., Cuijpers, P., & Van Straten, A. (2011). Applying computerized adaptive testing to the CES-D scale: A simulation study. *Psychiatry Research*, 188(1), 147–155. <https://doi.org/10.1016/j.psychres.2010.12.001>
- St Clair-Thompson, H., & Gathercole, S. E. (2006). Executive functions and achievements in school: Shifting, updating, inhibition, and working memory. *Quarterly Journal of Experimental Psychology*, 59(4), 745–759. <https://doi.org/10.1080/17470210500162854>
- Subali, B., Kumaidi, B., & Nonoh, S. A. (2021). The comparison of item test characteristics viewed from classic and modern test theory. *International Journal of Instruction*, 14(1), 647–660. <https://doi.org/10.29333/iji.2021.14139a>
- Suleiman, S. (2010). *The relationship between spatial ability and academic achievement in mathematics among sixth grade students in UNRWA schools* [Unpublished doctoral dissertation]. Islamic University of Gaza.
- Tanaka, J. S., & Huba, G. J. (1985). A fit index for covariance structure models under arbitrary GLS estimation. *British Journal of Mathematical and Statistical Psychology*, 38(2), 197–201. <https://doi.org/10.1111/j.2044-8317.1985.tb00834.x>
- Thurstone theory of intelligence: Exploring multiple factors*. (2023). Testbook. <https://testbook.com/ias-preparation/thurstone-theory-of-intelligence>
- Uttal, D. H., Meadow, N. G., Tipton, E., Hand, L. L., Alden, A. R., Warren, C., & Newcombe, N. S. (2013). The malleability of spatial skills: A meta-analysis of training studies. *Psychological Bulletin*, 139(2), 352–402. <https://doi.org/10.1037/a0028446>
- Verdine, B. N. (2011). *Navigation experience in video game environments: Effects on spatial ability and map use skills* [Doctoral dissertation, Vanderbilt University]. ProQuest. <https://www.proquest.com/docview/898587381?accountid14624>
- Wai, J., Lubinski, D., & Benbow, C. P. (2009). Spatial ability for STEM domains: Aligning over 50 years of cumulative psychological knowledge solidifies its importance. *Journal of Educational Psychology*, 101(4), 817–835. <https://doi.org/10.1037/a0016127>
- Weckbacher, L. M., & Okamoto, Y. (2014). Mental rotation ability in relation to self-perceptions of high school geometry. *Learning and Individual Differences*, 30, 58–63. <https://doi.org/10.1016/j.lindif.2013.10.007>
- Wong, E. H., Rosales, K. P., & Looney, L. (2023). Improving cognitive abilities in school-age children via computerized cognitive training: Examining the effect of extended training duration. *Brain Sciences*, 13(12), Article 1618. <https://doi.org/10.3390/brainsci13121618>
- Yen, W. M. (1993). Scaling performance assessments: Strategies for managing local item dependence. *Journal of Educational Measurement*, 30(3), 187–213. <https://doi.org/10.1111/j.1745-3984.1993.tb00423.x>

Humanistic Learning and Technological Approaches in Indonesian Tourism Vocational High Schools

Akhyar Rido^{1*}, Bagus Hary Prakoso², Analiza Liezl Perez-Amurao³, Mariati Purba² and Heni Waluyo Siswanto²

¹*Department of English Literature, Faculty of Arts and Education, Universitas Teknokrat Indonesia, Lampung, Indonesia*

²*Research Centre for Education, the National Research and Innovation Agency (BRIN), Jakarta, Indonesia*

³*Humanities and Language Division, Mahidol University International College, Bangkok, Thailand*

ABSTRACT

The existing literature recognizes issues on the lack of soft skills and mastery of technology among tourism vocational high school graduates because of the absence of humanistic learning and technological approaches at schools. However, these studies could not capture teachers' and students' rich and nuanced experiences in their classrooms. This research investigates the reality of humanistic learning and technological approaches in tourism vocational high schools in Indonesia. By employing a qualitative approach, this research collected data from two tourism vocational high schools in Yogyakarta and Bali, Indonesia, observing four hotel and culinary classrooms and interviewing ten volunteer teachers. The results indicate that the teachers implemented humanistic learning by emphasizing student's active involvement in the learning process, encouraging hands-on and experiential learning, recognizing the unique needs and abilities of the students, accommodating the development of interpersonal skills of the students, and placing significant emphasis on the personal growth of the students. The teachers also incorporated technology in humanistic learning by using digital resources and tools to support learning, promoting a blended learning environment, and facilitating collaboration and

communication using technology. Teachers and relevant stakeholders can use the findings of this research to improve the teaching and learning process and better prepare tourism vocational high school graduates for the demands of the tourism industry.

ARTICLE INFO

Article history:

Received: 29 November 2023

Accepted: 12 August 2024

Published: 16 December 2024

DOI: <https://doi.org/10.47836/pjssh.32.4.11>

E-mail addresses:

akhyar_rido@teknokrat.ac.id (Akhyar Rido)

bagusprakoso@gmail.com (Bagus Hary Prakoso)

analizaliezl.amu@mahidol.edu (Analiza Liezl Perez-Amurao)

mariati.prb@gmail.com (Mariati Purba)

heniwaluyo.hm@gmail.com (Heni Waluyo Siswanto)

* Corresponding author

Keywords: Humanistic learning, technological approach, tourism vocational high school

INTRODUCTION

In the past decade, a transformation in learning has been observed. The industrial revolution 4.0 until the COVID-19 pandemic has transformed face-to-face learning into one that is integrated with online learning using technology (Chung et al., 2020; Erten, 2022; Huang et al., 2021; Joyner & Isabell, 2021; Lemay et al., 2021; Valverde-Berrocoso et al., 2020). Learning using technology has become compulsory, including teaching-learning in tourism vocational high schools. Furthermore, as the era of Society 5.0 is approaching, it demands more use of technology, but it emphasizes a humanistic approach to learning (Mutohhari et al., 2021). It has become a challenge for educational institutions (Chen & Schmidke, 2017), including tourism vocational high schools in Indonesia.

This research discusses humanistic learning and technological approaches in Indonesian tourism vocational high schools. The tourism sector has been established as a core industry, as indicated in the country's blueprint for the future development of tourism vocational high schools. It includes hospitality, culinary arts, tourism management, and guided tours (Kadir et al., 2016). Therefore, tourism vocational high school students need to be equipped with the required soft skills and technological know-how to compete and meet the demands of the tourism industry.

However, studies report a number of issues on soft skills among tourism vocational high school graduates in Indonesia (Bunyamin et al., 2022; Di Grapello, 2013;

Ministry of Education and Culture, Research and Technology, 2020; Mutohhari et al., 2021). While soft skills are very important for success in the tourism industry, only 10% of tourism vocational high school graduates in Indonesia have adequate soft skills (Ministry of Education and Culture, Research and Technology, 2020). Similarly, Di Grapello (2013) reports that soft skills, especially communication skills, are one of the main weaknesses of vocational high school graduates in the country. This problem can limit job opportunities for graduates and hinder the growth of the industry because of incompetence in human resources (Bunyamin et al., 2022; Mutohhari et al., 2021).

Moreover, vocational high school graduates have also been reported to lack mastery of technology (Ministry of Education and Culture, Research and Technology, 2020). The tourism industry is becoming increasingly digital, and technology plays an important role in many jobs related to technology tourism. However, the use of technology in tourism vocational high schools is still limited (Ministry of Education & Culture, Research & Technology, 2020). It can hinder students' mastery of practical or hard skills, making it difficult for graduates to find work in the tourism industry (Prasetio & Priyana, 2021; Puja et al., 2021; Rido et al., 2024).

Many studies investigated vocational schools with a different focus, such as soft skills of vocational school graduates (Bunyamin et al., 2022), e-learning methods in vocational education (Firmansyah et al.,

2021), 21st-century skills competence in vocational education learning (Mutohhari et al., 2021), English online learning in tourism vocational classrooms (Prasetio & Priyana, 2021), implementation of humanistic approach in tourism vocational education (Puja et al., 2021), and technological applications and challenges in tourism vocational schools (Rido et al., 2024). A study by Bunyamin et al. (2022) investigated the soft skills of vocational school students and offered career-based soft skills enhancement strategies for vocational school students. The findings revealed that vocational school students lacked soft skills since soft skills were not integrated during teaching and learning. This study proposed career-oriented learning, which integrates hard and soft skills to better prepare students to compete in the job market.

Meanwhile, Firmansyah et al. (2021) looked at e-learning methods for vocational school students. This study found many benefits of e-learning for both students and teachers. E-learning provides flexible space and time. This study highlighted some challenges, such as technical difficulties and low-end gadgets.

Next, Mutohhari et al. (2021) examined the difficulties in implementing 21st-century skills competence in vocational education from the perspectives of teachers and students. Using a quantitative approach and the survey method, this study looked into the most difficult competencies, such as creativity, critical thinking, problem-solving, communication, collaboration, and digital literacy skills.

Moreover, Prasetio and Priyana (2021) explored the English language learning experience of tourism vocational high school students during the COVID-19 pandemic via online platforms. Their perceptions toward online learning were mainly positive. They generally used asynchronous online platforms like school learning management systems to access materials. They also utilized Google Classroom for learning and WhatsApp for further communication with their teachers and friends.

In addition, Puja et al. (2021) analyzed the application of the humanistic approach in designing the edu-recreation concept at a tourism higher learning institution. This study found that the institution has examined the value of the humanistic approach by focusing on the development of the students' self-potential through hands-on learning experience. It was done by providing them with edu-recreation facilities such as indoor and outdoor learning spaces equipped with high-technology learning media. The institution also promoted various extracurricular activities that facilitated the students' interests and talents.

Finally, Rido et al. (2024) discussed technological applications used and challenges faced by tourism vocational schoolteachers and students in their online classrooms. This study found that various synchronous and asynchronous technological applications like Google Meet, Zoom, Microsoft Team, Cisco WebEx, Discord, Skype, WhatsApp, YouTube, Google Classroom, Google Form, Telegram, Moodle, Screencast-O-Matic, Facebook,

Instagram, Quizzes, Kahoot, and Twitter were used by both teachers and students to support learning. They faced challenges such as unstable internet connection, lack of technological literacy, incompatible gadgets, limited participation, work overload, demotivation and lack of focus on learning.

The previous studies have provided valuable insights into the current situation in the vocational context, particularly the lack of soft skills, the use of technological applications, the implementation of the humanistic approach, and the challenges that come with using them. However, the existing studies were not able to capture the rich and nuanced experiences of teachers and students in their classrooms. In addition, extensive studies that look at humanistic learning by integrating it with technology in tourism vocational schools are still in their infancy.

This research is conducted in response to the above-mentioned issues. An *in situ* approach needs to be conducted to understand the reality in the tourism vocational schools in Indonesia, especially how the technological approach incorporated humanistic learning in Indonesian tourism vocational high schools from the perspectives of teachers and students. This research is necessary to help facilitate tourism vocational high school student's future careers and competitiveness in the global tourism job market.

Therefore, this research was guided by the following research questions:

1. What is the reality of humanistic learning in Indonesian tourism vocational high schools?
2. How is the technological approach incorporated into humanistic learning in Indonesian tourism vocational high schools?

Humanistic Learning

Humanistic learning is an educational philosophy that places emphasis on the individual's personal growth, self-discovery, and fulfillment of their potential. It focuses on the holistic development of students by considering their emotional, social, and cognitive aspects (Carden et al., 2022; DeRobertis & Bland, 2021; Gottfredson & Reina, 2021; Jonassen & Grabowski, 1993; Kuswoyo et al., 2021; Liu et al., 2021; Mak et al., 2017; McCombs & Whisler, 1997; Morris, 2020; Puspitarini et al., 2023; Scholtz, 2024).

Humanistic learning emphasizes the learner's active involvement in the learning process. It encourages students to take responsibility for their own learning and engage in self-directed activities. DeRobertis and Bland (2021) and Scholtz (2024) suggest implementing this approach as it allows students to develop their critical thinking, problem-solving skills, and decision-making abilities, which are very important for vocational school graduates to compete in the job market.

In addition, humanistic learning encourages hands-on, experiential learning opportunities. Students can engage in various activities to gain real-world experience. Mak et al. (2017) and Morris (2020) argue that this approach enables students to apply their knowledge and

skills in authentic settings, enhancing their understanding and developing their professional competencies, which prepare them for their future careers.

Next, humanistic learning recognizes each student's unique needs and abilities. Teachers can employ individualized instruction methods, such as personalized projects, to cater to students' diverse learning styles and interests. According to McCombs & Whisler (1997) and Kuswoyo et al. (2021), this student-centered approach promotes students' motivation, engagement, and a sense of ownership over their learning process, leading to better outcomes.

Moreover, humanistic learning emphasizes developing interpersonal skills like communication, teamwork, and empathy. Jonassen and Grabowski (1993) believe that students need to work collaboratively with their peers. The humanistic learning approach fosters students' interpersonal skills by incorporating group activities, role-playing exercises, and reflective discussions (Puspitarini et al., 2023).

Finally, humanistic learning places significant emphasis on personal growth, self-awareness, and self-esteem. Students face various challenges, including dealing with difficult tasks and managing stressful situations (Liu et al., 2021). The humanistic approach promotes students' resilience, emotional intelligence, and self-confidence, enabling them to navigate these challenges effectively (Carden et al., 2022; Gottfredson & Reina, 2021).

Technological Approach to Learning

A technological approach to learning refers to integrating and utilizing various technologies to enhance teaching and learning processes. Such an approach can play a significant role in preparing students for careers by providing them with relevant technical skills and knowledge (Alexakis & Jiang, 2019; Antonietti et al., 2022; Firmansyah et al., 2021; Jiang et al., 2019; Mutohhari et al., 2021; Rido et al., 2024).

The technological approach involves using digital resources and tools to support learning. These can include interactive multimedia presentations and online research databases (Mutohhari et al., 2021; Rido et al., 2024). These resources provide students with access to up-to-date information, enhance their understanding of particular concepts, and facilitate hands-on learning experiences.

The technological approach also enables students to develop their technical skills. Here, students can learn various systems, practice different techniques, and develop proficiency in using software (Alexakis & Jiang, 2019). This approach equips students with the practical skills required in various sectors.

Next, a technological approach often involves a blended learning environment that combines traditional face-to-face instruction with online learning components (Firmansyah et al., 2021; Rido et al., 2024). This environment can combine classroom-based instruction with online modules. It provides flexibility, promotes self-paced learning, and allows students to access

learning materials and resources anytime and anywhere.

Finally, technology facilitates collaboration and communication among students and teachers (Antonietti et al., 2022; Jiang et al., 2019; Rido et al., 2024). Students can participate in online forums and engage in virtual team projects through video conferences or online mentoring programs. This approach enhances students' networking skills and fosters a sense of community.

METHODS

This research explores the reality of humanistic learning and technological approaches in tourism vocational high schools in Indonesia. A qualitative method was used to investigate individual or group behavior in school and classroom settings (Creswell, 2014).

Participants

This research was approved by the Ethic Commission of Social and Humanities, the National Research and Innovation Agency Republic of Indonesia (No. 80/KE.01/SK/04/2023). The participants of

this research consisted of teachers and students of SMK A Yogyakarta and SMK B Bali. Before all participants gave their permission to be part of this research, they were first given pertinent information to make an informed consent to participate, including the purpose of the study, the identity of the researchers, participants' right in the process, participants' name used in this study, and benefit from participating in the study. They used pseudonyms and were selected based on some criteria.

Table 1 presents the criteria for schools, teachers, and students. The schools were selected as they were awarded as tourism vocational high schools centers of excellence by the Ministry of Education & Culture, Research & Technology Republic of Indonesia in 2022. In other words, they are amongst Indonesia's top tourism vocational high schools. The Yogyakarta and Bali Provincial Education Offices and the Ministry of Tourism also recommended the schools as they have succeeded in building their students' soft skills and hard skills by combining face-to-face classes and technology. The schools also voluntarily participate in this research. Meanwhile, the teachers and students who participated

Table 1
Criteria for research participants

Criteria for Schools	Criteria for Teachers and Students
<input type="checkbox"/> Had tourism vocational school center of excellence status	<input type="checkbox"/> Were from the hotel and culinary departments
<input type="checkbox"/> Recommended by the Provincial Office of Education and Ministry of Tourism because of their achievements	<input type="checkbox"/> Recommended by the school principals
<input type="checkbox"/> Implemented teaching and learning using technology	<input type="checkbox"/> Participated voluntarily
<input type="checkbox"/> Voluntarily participating in this research	

Source: Authors' work

in this research were from the hotel and culinary departments. In addition, they had to be recommended by the school principals and should have participated voluntarily.

In total, 10 teachers and 133 students from hotel and culinary departments took part in this research. In SMK A Yogyakarta, 5 teachers and 68 students agreed to participate. Meanwhile, in SMK B Bali, 5 teachers and 65 students were involved.

Data Collection

The data in this research were collected through observations and interviews. Figure 1 presents a procedure for data collection in two tourism vocational schools in Yogyakarta and Bali, which involved teachers and students. Observations 1 and 2, as well as interview 1, took place in SMK A Yogyakarta. Meanwhile, observations 2 and 3 and interview 2 were done in SMK B Bali.

First, observations were done to examine the reality that occurred in the classroom—how humanistic learning was carried out in

both tourism vocational high schools. The observation was employed as this study needed direct information to understand ongoing classroom behavior, processes, and unfolding situations. Specifically, observation was used because first, it allowed the researchers to get first-hand data about humanistic learning used in the hotel and culinary classrooms, and second, the researchers could obtain information about their classroom activities, which they were unwilling to mention during the interviews. A set of observation guides was used to look into classroom experience. The researchers acted as non-participant observers, sat at the back of the classrooms, and recorded whether specific strategies and classroom practices involving humanistic learning were present or absent during observation periods.

In SMK A Yogyakarta, the first observation was conducted in culinary class, which took place in the Kitchen Laboratory. The topic was ‘Grocery Shopping List Analysis’ (Observation 1). The second

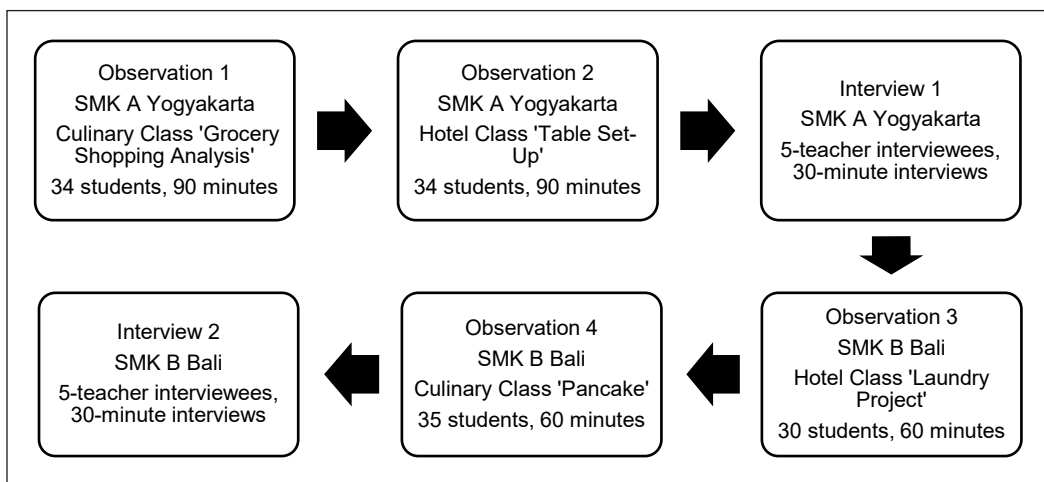


Figure 1. Data collection procedures
Source: Braun and Clarke (2006)

observation was conducted in hotel class, which took place in the Hotel Laboratory. The topic was ‘Table Set-up’ (Observation 2). Thirty-four students attended both classes and ran for approximately 90 minutes.

In SMK B Bali, the observation was first conducted in a hotel class in the Laundry Laboratory, with the topic ‘Laundry Project’ (Observation 3). The class had 30 students and was over after 60 minutes. The second observation was done in a culinary class in the Kitchen Laboratory, with the topic ‘Pancake’ (Observation 4). The class consisted of 35 students and was completed within 60 minutes.

After a period of observations, semi-structured interviews with teachers were conducted. Semi-structured interviews leave space for the researchers to add any further questions that may arise during the actual interviews with the participants. In this research, the interviews mainly involved asking structured questions on how the technological approach was incorporated with humanistic learning in their classrooms. Then, open-ended questions were probed to obtain in-depth information.

Ten teachers were personally invited to attend an interview session, which was arranged voluntarily. In SMK A Yogyakarta, the interview with teachers (Teacher 1, Teacher 2, Teacher 3, Teacher 4, and Teacher 5) was conducted individually using Bahasa Indonesia, and it took place in the principal’s room. Each session lasted between 20 and 30 minutes. Meanwhile, in SMK B Bali, the interviews with teachers (Interview Teacher 6, Teacher 7, Teacher

8, Teacher 9, and Teacher 10) took place in the teachers’ meeting room. Each session was conducted in pairs and groups using Bahasa Indonesia and ran for approximately 30 minutes. Data from interviews were carefully transcribed manually in Microsoft Office. Peer debriefing was employed to ensure data validity after the transcription was done, and the teachers were asked to verify the results to establish strong data credibility.

Data Analysis

Using Braun and Clarke’s (2006) six-phase framework for thematic analysis, the procedure included familiarizing yourself with the data, generating initial codes, searching for themes, reviewing themes, defining themes, and writing up (Figure 2).

Once the patterns and themes were identified, the results of observations and

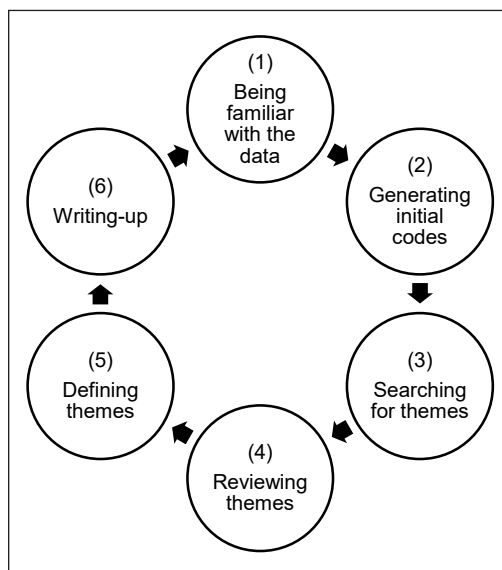


Figure 2. Data analysis procedure
Source: Authors’ work

interviewees' responses were triangulated and subjected to thematic analysis. It allowed the authors to comb through the data accordingly.

RESULTS AND DISCUSSION

The research arrived at two key findings showing humanistic learning and the technological approach teachers and students use at Indonesian tourism vocational high schools. The findings from the humanistic learning analysis will be presented first, followed by the results from the analysis of the technological approach. These humanistic learning and technological approaches manifest various strategies and classroom practices in the dimensions of teacher-student interaction in hotel and culinary classrooms of tourism vocational schools.

What is the Reality of Humanistic Learning in Indonesian Tourism Vocational High Schools?

This research shows that the teachers implemented humanistic learning in Indonesian vocational high schools. Table

2 presents humanistic learning through five strategies—emphasizing student's active involvement in the learning process, encouraging hands-on and experiential learning, recognizing each student's unique needs and abilities, accommodating the development of interpersonal skills, and placing significant emphasis on personal growth. The strategies used in hotel and culinary classrooms were found to be manifested by allowing the students to speak their minds, performing a demonstration in the class, giving individualized instruction, promoting group discussion, and providing feedback as well as warning and compliments.

Emphasizing Student's Active Involvement in the Learning Process

The findings from observations indicate that the teachers emphasized the students' active involvement in the learning process. The teachers primarily allowed students to express their opinions and ask questions, as seen in the following extracts 1-3.

Table 2

Summary of humanistic learning in Indonesian tourism vocational high schools

Humanistic Learning	
Strategies	Classroom Practices
1. Emphasizing student's active involvement in the learning process	1. Allowing students to express opinions and ask questions
2. Encouraging hands-on and experiential learning	2. Offering demonstration activities to the students
3. Recognizing the unique needs and abilities of each student	3. Giving individualized instruction to each student
4. Accommodating the development of interpersonal skills	4. Facilitating teamwork and group activities
5. Placing significant emphasis on personal growth	5. Providing constructive feedback, warning, and compliments to students

Source: Authors' work

Extract 1. A student asked about some concepts, and the teacher checked with other students who could help. A student helped explain the concept. The teacher also encouraged more students to ask questions to a group of students who were presenting while offering additional points. Students also initiated asking questions as they wanted to confirm what they understood about some problems they faced. After that, the teacher explained it comprehensively (Observation 1).

Extract 2. The teacher asked about several cases with students, which was meant to see if restaurant conditions were not as expected. Some students gave their answers, and the teacher added a number of alternatives to how to encounter such situations, especially in setting up tables in hotels and restaurants. A group of students were discussing the best way to set up a table by considering the position of the entrance door and window. Then, they approached the teacher, seeking her opinion. The teacher also walked around and asked what they were doing. The students explained it (Observation 2).

Extract 3. In this meeting, students had to cook pancakes on their own in the kitchen lab. They prepared the ingredients and started cooking. The teacher allowed them to discuss with their friends and asked when they had problems. After completing their pancakes, all the students gave a short presentation. The teacher posed some questions, and the students gave their answers (Observation 4).

One characteristic of humanistic learning is active and student-centered learning. Here, students engage in real-time discussions, ask questions, and receive immediate teacher feedback. Nunan (1999) and Richards (2006) often emphasize the importance of engaging students actively in the learning process. It creates a supportive and student-centered environment where students can actively engage in learning, explore their interests, and develop a sense of purpose and meaning in their education.

Engaging students in active learning experiences enhances their understanding and retention of subject matter, leading to improved academic performance (Freeman et al., 2014). This fosters active participation and enhances understanding of tourism-related concepts and skills (Sitzmann et al., 2010). It is particularly important in vocational high schools where students need to acquire practical skills and knowledge (Kuh et al., 2007). More importantly, engaged learning promotes the development of critical thinking and problem-solving skills, which are essential in addressing the challenges and complexities of the tourism sector (National Research Council, 2012). The findings are relevant to DeRobertis and Bland (2021) and Scholtz (2024). To some extent, this result is also similar to Bunyamin et al. (2022) and Mutohhari et al. (2021).

Encouraging Hands-on and Experiential Learning

This research also reveals that the most common humanistic learning practice during the learning process was encouraging hands-

on and experiential learning opportunities. Teachers did this through demonstration activities. It can be found in the following extracts 4–6.

Extract 4. The teacher began the class by demonstrating how to fold tablecloths slowly and carefully. All students paid close attention. The teacher continued interacting with students by asking questions as the latter responded to confirmation checks. The teacher demonstrated using all the available tools. She also gave examples of how to fold the lapels and emphasized that the fold lines must be the same, followed by a demonstration of installing tablecloths and arranging accessories on the table. After that, the students practiced preparing a table, starting from setting up a tablecloth, folding dinner towels, preparing cutlery, and arranging flowers (Observation 2).

Extract 5. Students who had been divided into three groups did practical work according to their respective duties of washing, drying, and ironing clothes. Students practiced washing clothes using a household-size washing machine, but when drying the clothes, they used a large-size dryer commonly used in the hospitality industry. There were a number of different ironing machines, but in this context, regular household irons were used. Another group of students seemed busy packing clothes that had been ironed and arranged on the clothes rack (Observation 3).

Extract 6. Individual students were asked to practice making pancakes. Students began

by preparing the basic ingredients, such as flour, yeast, and butter and then used a mixer to mix all the ingredients (Observation 4).

A task-based approach through hands-on and experiential learning, like demonstration, is a common teaching scenario used by the teachers in the investigated tourism vocational high schools. Here, the teachers advocate for activities and tasks that require students to apply their knowledge and skills to real-world situations relevant to their vocational training (Chen & Schmidke, 2017; Mak et al., 2017; Morris, 2020).

In the same vein, Richards and Rodgers (2014) argue that this approach is effective as it encourages students to complete meaningful tasks relevant to their vocational goals. The activities also simulate real-world scenarios in the tourism industry, which helps students see the practical applications of their learning and makes them better prepared for their careers (Kolb, 2014). This result is also in line with Puja et al. (2021) and Rido et al. (2024).

Recognizing the Unique Needs and Abilities of Each Student

The next humanistic learning found during the observations was recognizing each student's unique needs and abilities. The teachers mostly did this through individualized instruction methods. It can be found in extracts 7–10.

Extract 7. The teacher asked students to work on examples of kitchen shopping lists drawn and reviewed individually by the teacher on the blackboard. They were also

asked to analyze the questions/cases given in the group. The teacher then asked a number of individual students by calling their names and asking about what they had done. Each student gave an answer based on their experience and knowledge (Observation 1).

Extract 8. The teacher asked students to fold tablecloths and arrange flowers using their creativity (Observation 2).

Extract 9. Students were asked to watch relevant videos and access learning materials about a hotel laundry procedure. The materials were provided via Google Drive, and students gave their opinions about them in return (Observation 3).

Extract 10. After finishing the process of making pancakes, students were asked to be creative about their presentation and show their uniqueness. Students began to put the pancakes on a plate and decorate them with the fruits provided, such as strawberries and grapes, chocolate, milo powder, strawberry and chocolate jam, and cream (Observation 4).

Giving individualized instructions was also observed in the classrooms. Chen and Schmidke (2017) and Nunan (1999) highlight the importance of tailoring instructions to meet individual student needs and interests. It allows students to progress based on their readiness and understanding (Bloom, 1984). Each contribution from each student acts as input, which can enhance learning (Hattie, 2012).

A study by Gijbels et al. (2005) claims that individualized instruction in vocational

education improves students' motivation to learn and allows them to take ownership of their learning. It is supported by Reeve and Tseng (2011), who believe that when students have choices and autonomy in their learning, they are more likely to take ownership of their education. This result is also relevant to McCombs and Whisler (1997) and Kuswoyo et al. (2021)

Accommodating the Development of Interpersonal Skills

The results further identify the implementation of humanistic learning, as the teachers accommodated the students' development of interpersonal skills through teamwork and group activities. Extracts 11–13 show how the teachers and students were involved in such collaborative activities in the classrooms.

Extract 11. The teacher said students had to work together (three or four) and be responsible for what they did (shared responsibility by dividing the work), reminding each other. Students sat in groups. After that, during presentations, especially the question-answer session, the teacher gave the presenters the opportunity to think, write down the questions on a piece of paper, and discuss them with the group members before answering the questions (Observation 1).

Extract 12. The teacher started a group discussion and asked whether they wanted to form their group or be chosen by the teacher. Students answered the teacher

who chose the group for them. Students were divided into two big groups. The first major group consisted of half the class and practiced in two different rooms with different activities. The teacher then formed smaller groups of three and four students based on the order of names in the attendance list. After that, they practiced preparing a table (Observation 2).

Extract 13. At the beginning of the session, the teacher divided the students into three groups, each consisting of five to six students, to check dirty clothes, wash and dry clothes, and iron. They were given tasks and worked together to complete them (Observation 3).

Group activities and discussions are identified during classroom observations. Engaging students in group discussions helps them hone their communication skills, which are vital for success in the industry (Stewart et al., 2007). Classroom discussions also provide opportunities for students to learn from each other and develop interpersonal skills (Rido et al., 2016, 2015; Hattie, 2012; Dweck, 2006).

It is also relevant to Jonassen and Grabowski (1993), Puspitarini et al. (2023), and Vygotsky (1978), who underscore the role of social interaction in the development of students' language and interpersonal skills, focusing on collaborative learning environments that facilitate this development. Mutohhari et al. (2021) also support this result, emphasizing the importance of collaboration as part of 21st-century skills.

Placing Significant Emphasis on Personal Growth

Next, this research identifies one more humanistic learning practice—placing significant emphasis on personal growth—in the teaching and learning process. The teachers implemented this by giving the students constructive feedback, warnings, and compliments. In the following extracts, 14–17, the teachers gave constructive feedback on the students' work, and the students listened carefully.

Extract 14. The teacher reviewed the students' work regarding the complete course, especially the main course. Then, she explained the main course and dessert. The teacher emphasized the ingredients so that the main course and dessert did not use the same ingredients. The teacher also emphasized the importance of the cost of the ingredients so that the students would not make mistakes (Observation 1)

Extract 15. The teacher asked students to check what was missing from the table. The teacher corrected the mistakes made by students during the table set-up practicum. The teacher also carried out the overall evaluation, carefully checking and evaluating the details of the student's work on the table (Observation 2).

Extract 16. Students were asked to explain the functions of all the tools carefully, including clothing materials, and they tried to do so. However, the teacher was dissatisfied, so she added more information,

especially regarding the technical machines used, such as an iron set and a steam iron unit, a clothes press, a washing machine and a large-size drying machine, including a number of clothing materials. After everything was made clear, the students started working (Observation 3).

Extract 17. During the practical process of making pancakes, the teacher supervised and checked the tables, and students worked one by one and provided input. At the end of the session, the teacher evaluated. She said the students' biggest homework was creating texture by mixing the basic ingredients, especially yeast and flour, so the dough was not soft (Observation 4).

During class, the teachers also warned the students about their appearance and behavior in the classroom. This can be seen in extracts 18–19 below.

Extract 18. The teacher reminded students to raise their voices so that other students could hear more during presentations and while asking questions. The teacher also asked other students to listen and appreciate their friends presenting in front of the class. At the end of the presentation, a number of students chatted, and then the teacher warned them to pay attention (Observation 1).

Extract 19. The teacher commented on the hair of one of the male students, who needed to be tidied up. The teacher also warned students not to drop the expensive dining utensils because dropping them from the tables meant poor service (Observation 2).

On the other hand, the teachers also expressed appreciation for their students as they gave acceptable responses and work. Please refer to the following extracts 20–23.

Extract 20. The teacher gave her nod of approval to the answer of the student who helped answer another classmate's question regarding some cooking concepts. (Observation 1)

Extract 21. The teacher thanked a student who asked questions during the table set-up practicum. She also praised the students' work by saying 'I like it' and 'that's correct' when they answered her questions (Observation 2).

Extract 22. At the end of the session, the teacher thanked the students for coming to the class, hoping to see them the following week (Observation 3).

Extract 23. The teacher announced the students with the best grades and asked everyone to give a round of applause (Observation 4).

This study finds that the teachers gave constructive feedback, warnings, and compliments to their respective students in the class. In general, constructive feedback encourages self-reflection, allowing students to assess their performance and adjust and enhance their skills (Rido et al., 2023; Sadler, 1989). In the vocational tourism school context, constructive feedback provides students with specific information about their performance, helping them

identify areas for improvement in tourism-related skills and competencies (Hattie & Timperley, 2007).

Meanwhile, warnings help students become aware of potential risks associated with providing services in the tourism industry, promoting safety-conscious behavior (Geller, 2001). Warnings about ethical and professional standards in the tourism sector can instill a sense of responsibility and integrity in students (Freeman et al., 2014). Warnings about challenges and difficulties students may encounter in their careers can prepare them to face such situations with resilience and adaptability (Brown, 2017).

On the other hand, compliments acknowledge students' achievements and strengths, boosting their self-confidence and self-esteem (Brummelman et al., 2015). Compliments that focus on effort and improvement can enhance students' intrinsic motivation to excel (Dweck, 2006). A positive learning environment created through compliments fosters a

sense of belonging and encourages active engagement (Noddings, 2016). To some extent, this is relevant to Carden et al. (2022), Gottfredson and Reina (2021), and Puja et al. (2021).

How is the Technological Approach Incorporated in Humanistic Learning in Indonesian Tourism Vocational High Schools?

The interview findings indicate that the teachers incorporated a technological approach in tourism vocational high schools. Table 3 shows the technological approach through three strategies: using digital resources and tools to support learning, promoting a blended learning environment, and facilitating collaboration and communication. The strategies used in hotel and culinary classrooms were demonstrated by utilizing online databases via various sources, integrating traditional face-to-face and online learning, and using various technological applications for further collaboration and communication with the students.

Table 3

Summary of technological approach in Indonesian tourism vocational high schools

Technological Approach	
Strategies	Classroom Practices
1. Involving the use of digital resources and tools to support learning	1. Using online databases such as Moodle-based online learning platform, Google Classroom, website, and YouTube to support learning
2. Promoting a blended learning environment	2. Combining traditional face-to-face instruction with online learning and using synchronous and asynchronous platforms like Zoom, Google Meet, Google Form, WhatsApp, Google Classrooms, Kahoot, and Quizzes
3. Facilitating collaboration and communication using technology	3. Employing technological applications such as WhatsApp, Edmodo, Facebook, Google Meet, and Google Classroom for further collaboration and communication with the students

Source: Authors' work

Involving the Use of Digital Resources and Tools to Support Learning

This research finds that teachers and students used digital sources to support learning. Moodle-based online learning platform, Google Classroom, website, and YouTube facilitated interactions between student and teacher and student with learning materials. The teachers shared PowerPoint slides for their reading and relevant learning videos, which could be downloaded and stored in the student's database. Here, the students reported their assignments as well. It can be seen in extracts 24–33 below.

Extract 24.

“I used YouTube and shared the link to my students so students can learn from the videos. School also provided a Moodle-based online learning platform mostly for accessing materials” (Teacher 1).

Extract 25.

“We also used Google Classroom, especially for sharing materials. School provided a Moodle-based platform for learning” (Teacher 2).

Extract 26.

“I created and shared a video of learning practice to students. School provided a website; we uploaded materials and modules” (Teacher 3).

Extract 27.

“I created content for learning using my own handphone and uploaded

it on YouTube even though it took time. Students and everyone could watch the videos. Seven of my videos were recognized by the Ministry of Education and uploaded in the Ministry's online learning platform. For cooking class, I sent them videos of foods and beverages from social media and asked them to create a menu based on the video and they had to video-record it, then sent via Google Classroom” (Teacher 4).

Extract 28.

“I used Google Suites. I put barcodes in some corners of the school so that the students can do their tasks like playing games using their own handphones. I also used Google Classroom and Yogya Belajar (a learning management system), so students can access materials there” (Teacher 5).

Extract 29.

“We used Google Drive and Google Classrooms to access materials and to submit assignments. We also used simulation software for learning” (Teacher 6).

Extract 30.

“Students accessed everything in Google Classrooms” (Teacher 7).

Extract 31.

“We created some videos and uploaded them to YouTube. YouTube

helped students to better understand the materials” (Teacher 8).

Extract 32.

“Especially for storing all materials, we mostly used Google Classroom” (Teacher 9).

Extract 33.

“I shared all the materials through Google Classroom” (Teacher 10).

Digital resources provide comprehensive and up-to-date materials (Pimmer et al., 2016; Sharples et al., 2014). These sources are normally established and provided by the Ministry of Education and schools based on the needs of the students (Rido et al., 2022), which help enhance the students’ understanding of tourism-related concepts and skills (Sitzmann et al., 2010). These sources also allow the students to access learning materials and resources at any time, balancing their academic commitments with practical training or work experiences (Anderson, 2016; Means & Neisler, 2020). This flexibility is particularly advantageous for vocational high school students who may have varied schedules. It also helps them to study at their own pace and seek additional support when needed, providing opportunities for individualized instruction and personalized learning experiences (Garrison et al., 2000).

However, there are several drawbacks to using these digital sources (Rido et al., 2022). First, students become passive recipients of knowledge since they do not get

direct feedback from their teachers. Second, both teachers and students experience unstable Internet connection, affecting communication. To some extent, these results are in line with results from the studies of Mutohhari et al. (2021), Prasetyo and Priyana (2021), and Rido et al. (2024).

Promoting a Blended Learning Environment

The results also show that teachers implemented a blended learning environment, combining traditional face-to-face instruction with online learning components. They used both synchronous and asynchronous platforms like Zoom, Google Meet, Google Form, WhatsApp, Google Classrooms, Kahoot, and Quizzes. Please refer to the following extracts 34–41.

Extract 34.

“During practice class, for example in baking class, students had to feel the texture of the dough, so we did hybrid. Half of the class came to the school while the rest of the students attended the class via google meet. In some meetings we did it asynchronously, for exams I used google forms, for assignments I used Google Classrooms” (Teacher 1).

Extract 35.

“For my class, introducing the front office concept to the students was not an issue, but developing the value and manner of the front

office while welcoming guests was difficult, looking at their body and hand gestures. So far, I have used Google Meet. For assignments, I used Google Form” (Teacher 3).

Extract 36.

“I used synchronous technological applications to explain the materials and instructions. After that, they posted it on an asynchronous online platform” (Teacher 5).

Extract 37.

“We blended both synchronous and asynchronous platforms, combining Zoom and Google Classroom as well as YouTube and social media like Instagram for teaching and learning. We used Quizzes for examinations. For front office practice, I liked doing it on-site” (Teacher 6).

Extract 38.

“I normally used Zoom or Google Meet for materials delivery. For hotel subjects, students submitted pictures for example about receptionists and submitted their assignments via Google Classroom” (Teacher 7).

Extract 39.

“We used Zoom, Google Meet, and Google Classroom. We also used YouTube and WhatsApp. Google

Classroom was for assignment submissions (Teacher 8).

Extract 40.

“I preferred face-to-face interactions, but I also frequently used Google Meet during emergency situations” (Teacher 9).

Extract 41.

“I taught culinary subjects, and I felt that the kitchen is the best place to practice cooking. I also made use of technology for examinations like Kahoot and Quizzes” (Teacher 10).

Blended learning was also implemented through synchronous and asynchronous online learning platforms. Tourism vocational schools often involve practical skills and real-world experiences. In-person classes provide the opportunity for hands-on training, such as food preparation in culinary classes or role-playing in hospitality scenarios (Kabii et al., 2018). Face-to-face classrooms allow for interactive discussions, group activities, and immediate feedback from teachers (Jiang et al., 2021). It fosters a dynamic learning environment that can enhance students’ understanding of the materials (Rido et al., 2022). Beyond academic knowledge, vocational programs often aim to develop soft skills like communication, teamwork, and problem-solving. In-person classes offer a structured environment to practice and refine these skills (Brown, 2017; Nurvitasari et al., 2023).

Meanwhile, incorporating technology in the blended learning environment can increase student engagement. Synchronous online learning applications like Zoom and Google Meet enable students to collaborate with their peers, work on group projects and do problem-solving activities from home (Ziegler, 2016). It promotes teamwork skills, which are crucial in tourism (Dziuban et al., 2018; Kerr et al., 2006). They can also participate in virtual simulations and role-playing exercises in different scenarios, which allow them to apply their knowledge and skills in realistic contexts (Reeve & Tseng, 2011; Rido et al., 2022).

However, there are some challenges in promoting a blended learning environment, especially from the teacher's side (Rido et al., 2022). Teachers spend a lot of time preparing for lessons and need to train themselves using technology. They also experience difficulty checking the originality of students' assignments and examination answers. It becomes more challenging in many cases as they have to do it from their respective homes. These findings are supported by Firmansyah et al. (2021), Prasetio and Priyana (2021), and Rido et al. (2024).

Facilitating Collaboration and Communication Using Technology

This research finds that teachers employed technology to collaborate and communicate with their students. They used WhatsApp, Edmodo, Facebook, Google Meet, and Google Classroom. Extracts 42–50 below show this.

Extract 42.

“I frequently used WhatsApp for further communication with students” (Teacher 1).

Extract 43.

“I also used Edmodo for discussions. I also used social media like WhatsApp, Instagram, Facebook to support learning” (Teacher 2).

Extract 44.

“If students had problems, they asked me via WhatsApp” (Teacher 3).

Extract 45.

“I used WhatsApp for communication outside of the class with my students” (Teacher 5).

Extract 46.

“We used WhatsApp for sharing information with students while students often asked questions through WhatsApp. During the internship we also used Google Meet” (Teacher 6).

Extract 47.

“WhatsApp was used for consultations” (Teacher 7).

Extract 48.

“We used WhatsApp to give further instruction and assignment” (Teacher 8).

Extract 49.

“WhatsApp was used mostly for discussion” (Teacher 9).

Extract 50.

“After the class, I liked posting open questions via Google Classroom about the previous learning materials and students gave their responses there” (Teacher 10).

A number of technological applications were used to facilitate further collaboration and communication outside of the classrooms. Applications like WhatsApp principally help enable instant messaging and real-time communication between teachers and students and among students, ensuring that information is readily accessible (Garrison et al., 2000; Picciano et al., 2021). Next, platforms like Google Meet facilitate virtual meetings and discussions (Dziuban et al., 2018), while Google Classroom and Edmodo streamline the assignment submission process, making it easier for students to submit their work and for teachers to provide timely feedback (Rido et al., 2022; So & Brush, 2008).

In addition, social media like Facebook can create online communities where students and teachers, students and students, and industry stakeholders can connect and network (Sutton & Basiel, 2014; Ulla & Perales, 2021). It promotes the development of networking skills and a sense of community among students (Antonietti et al., 2022; Jiang et al., 2019). This result is also supported by Mutohhari

et al. (2021), Prasetio and Priyana (2021), and Rido et al. (2024).

CONCLUSION

To conclude, this research reveals that tourism vocational high schools in Indonesia implemented humanistic learning and technological approaches in the classrooms. For humanistic learning, the teachers used five strategies and classroom practices. They emphasized the student’s active involvement in the learning process by providing opportunities for students to express their opinion and ask questions. They also encouraged hands-on and experiential learning opportunities through demonstration activities. The teachers recognized the unique needs and abilities of each student, and it was done through individualized instruction methods. In addition, they accommodated the development of the students’ interpersonal skills through teamwork and group activities. Ultimately, they emphasized the personal growth of their students by giving constructive feedback, warnings, and compliments.

This research also explores technological approaches in Indonesian tourism vocational high schools. Here, the teachers used three strategies and classroom practices. They used digital sources and technological tools like Moodle, Google Classroom, the school website and YouTube. They also provided a blended learning environment where in-person interaction was incorporated with synchronous and asynchronous online learning by using Zoom, Google

Meet, Google Form, WhatsApp, Google Classrooms, Kahoot, and Quizzes. Technological applications like WhatsApp, Edmodo, Facebook, Google Meet, and Google Classroom were also used for further collaboration and communication outside classrooms. This implementation of the technological approach promoted engagement, self-centered learning, and collaboration.

There are some implications behind the implementation of humanistic learning and technological approaches in tourism vocational high schools. First, by implementing appropriate humanistic learning strategies, teachers can create a more engaging, student-centered, holistic learning environment that prepares students for their careers, personal growth and meaningful connections in tourism. Second, by incorporating technological approaches into humanistic learning, teachers can enhance hands-on learning, facilitate collaboration and communication, personalize and diversify learning, and bridge the gap between education and work. It is aligned with the evolving needs of industries like tourism, increasingly relying on technology for efficiency while valuing interpersonal competencies for guest satisfaction. This eventually supports students, making them better prepared for their careers.

The results of the study are useful in many ways. First, the findings of this research contribute to a pedagogical discourse in the vocational high school context on how to incorporate humanistic learning

and technological approaches that can be realized into several strategies and classroom practices. Second, relevant stakeholders can also use the findings of this research as a tool to improve hotel and culinary learning in the context of tourism vocational classrooms. Third, tourism practitioners working to prepare students for the tourism job market may consider humanistic learning and technological approaches to tourism training that give appropriate knowledge and relevant attributes and thus frame the use of technology in the critical and humanistic perspective instead of the technical orientations.

To this end, this research has yielded some interesting findings; however, there are two limitations. First, the data gained in this research only involved two case studies in tourism vocational high schools in Indonesia with limited volunteer participants. Thus, results cannot be generalized. Further research must involve a larger number of schools and participants to better understand the reality of humanistic learning and technological approaches, especially in the context of tourism vocational high schools. Second, this research investigated only two areas of the discipline of tourism vocational high school, and further studies should look at various disciplines and various vocational high school stream contexts.

ACKNOWLEDGEMENT

The authors extend their highest appreciation to Universitas Teknokrat Indonesia, the National Research and Innovation Agency (BRIN) Republic

of Indonesia, and Mahidol University International College for supporting this research through the HiPuTS and Research Collaboration Program.

REFERENCES

- Alexakis, G., & Jiang, L. (2019). Industry competencies and the optimal hospitality management curriculum: An empirical study. *Journal of Hospitality & Tourism Education, 31*(4), 210-220. <https://doi.org/10.1080/10963731.2019.1575748>
- Anderson, R. D. (2016). Tailoring instruction to student needs: A case study in tourism education. *Journal of Vocational Education, 21*(4), 312-326. <https://doi.org/10.21831/jpv.v11i2.39980>
- Antonietti, C., Cattaneo, A., & Amenduni, F. (2022). Can teachers' digital competence influence technology acceptance in vocational education? *Computers in Human Behavior, 132*, Article 107266. <https://doi.org/10.1016/j.chb.2022.107266>
- Bloom, B. S. (1984). The 2-sigma problem: The search for methods of group instruction as effective as one-to-one tutoring. *Educational Researcher, 13*(6), 4-16 <https://doi.org/10.3102/0013189X013006004>
- Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology, 3*(2), 77-101. <https://doi.org/10.1191/1478088706qp063oa>
- Brown, L. K. (2017). Networking and career development in tourism education: A case study of best practices. *Journal of Travel and Tourism Education, 30*(1), 45-58. <https://doi.org/10.1111/jjmr.12152>
- Brummelman, E., Nelemans, S. A., Thomaes, S., & Orobio de Castro, B. (2017). When parents' praise inflates, children's self-esteem deflates. *Child Development, 88*(6), 1799-1809. <https://doi.org/10.1111/cdev.12936>
- Bunyamin, B., Samsudi, S., & Rohman, S. (2022). Soft skills improvement strategy based on career and 21st century learning oriented. *Journal of Vocational and Career Education, 7*(1), 65-77. <https://doi.org/10.15294/jvce.v7i1.41103>
- Carden, J., Jones, R. J., & Passmore, J. (2022). Defining self-awareness in the context of adult development: A systematic literature review. *Journal of Management Education, 46*(1), 140-177. <https://doi.org/10.1177/1052562921990065>
- Chen, P., & Schmidtke, C. (2017). Humanistic elements in the educational practice at a United States sub-baccalaureate technical college. *International Journal for Research in Vocational Education and Training, 4*(2), 117-145. <https://doi.org/10.13152/IJRJET.4.2.2>
- Chung, E., Subramaniam, G., & Dass, L. C. (2020). Online learning readiness among university students in Malaysia amidst COVID-19. *Asian Journal of University Education, 16*(2), 45-58. <https://doi.org/10.24191/ajue.v16i2.10294>
- Creswell, J. W. (2014). *Research design: Qualitative, quantitative, and mixed method approaches*. *Asian Journal of University Education (AJUE), 16*(2), 45-58. <https://doi.org/10.24191/ajue.v16i2.10294>
- DeRobertis, E. M., & Bland, A. M. (2021). Humanistic and positive psychologies: The continuing narrative after two decades. *Journal of Humanistic Psychology, 1-33*. <https://doi.org/10.1177/00221678211008353>
- Di Grapello, E. (2013). Role of education and training sector in addressing skill mismatch in Indonesia. In D. Suryadharma & G. W. Jones (Eds.), *Education in Indonesia* (pp. 236-266). Institute of Southeast Asian Studies. <https://doi.org/10.1355/9789814459877-017>

- Dweck, C. (2006). *Mindset: The new psychology of success*. Ballantine Books. <https://advantage.com/wp-content/uploads/2023/02/Mindset-The-New-Psychology-of-Success-Dweck.pdf>
- Dziuban, C., Graham, C. R., Moskal, P. D., Norberg, A., & Sicilia, N. (2018). Blended learning: The new normal and emerging technologies. *International Journal of Educational Technology in Higher Education*, 15(1), Article 3. <https://doi.org/10.1186/s41239-017-0087-5>
- Erten, P. (2022). *Meslek Liselerinin 21. yy. Öğrenen ve Öğreten Becerileri Kapsamında Değerlendirilmesi* [Analyzing vocational high schools within the 21st century learner and teacher skills spectrum]. *Eğitim ve Bilim*, 47(209), 261-291. <http://doi.org/10.15390/EB.2022.10702>
- Firmansyah, A., Samsudin, A. F., Aqmal, R. Y., Sasmita, A. H., & Dwiyantri, V. (2021). E-learning methods impact in vocational education. *INVOTEC: Innovation of Vocational Technology Education*, 17(1), 14-21. <https://doi.org/10.17509/invotec.v17i1.32219>
- Freeman, S., Eddy, S. L., McDonough, M., Smith, M. K., Okoroafor, N., Jordt, H., & Wenderoth, M. P. (2014). Active learning increases student performance in science, engineering, and mathematics. *Proceedings of the National Academy of Sciences*, 111(23), 8410-8415. <https://doi.org/10.1073/pnas.1319030111>
- Garrison, D. R., Anderson, T., & Archer, W. (2000). Critical inquiry in a text-based environment: Computer conferencing in higher education. *The Internet and Higher Education*, 2(2-3), 87-105. [https://doi.org/10.1016/S1096-7516\(00\)00016-6](https://doi.org/10.1016/S1096-7516(00)00016-6)
- Gijbels, D., Dochy, F., Van den Bossche, P., & Segers, M. (2005). Effects of problem-based learning: A meta-analysis from the angle of assessment. *Review of Educational Research*, 75(1), 27-61. <https://doi.org/10.3102/00346543075001027>
- Geller, E. S. (2001). Behavior-based safety in industry: Realizing the large-scale potential of psychology to promote human welfare. *Applied & Preventive Psychology*, 10(2), 87-105. [https://doi.org/10.1017/S0962-1849\(02\)01002-8](https://doi.org/10.1017/S0962-1849(02)01002-8)
- Gottfredson, R. K., & Reina, C. S. (2021). Illuminating the foundational role that mindsets should play in leadership development. *Business Horizons*, 64(4), 439-451. <https://doi.org/10.1016/j.bushor.2021.02.009>
- Hattie, J. (2012). *Visible learning for teachers: Maximizing impact on learning*. Routledge. <https://doi.org/10.3102/003465430298487>
- Hattie J., & Timperle, H. (2007). The power of feedback. *Review of Educational Research*, 77(1), 81-112. <https://doi.org/10.3102/003465430298487>
- Huang, R., Tlili, A., Wang, H., Shi, Y., Bong, C. J., Yang, J., & Burgos, D. (2021). Emergence of the Online-Merge-Offline (OMO) learning wave in the post-COVID-19 era: A pilot study. *Sustainability*, 13(6), Article 3512. <https://doi.org/10.3390/su13063512>
- Jiang, Y., Chen, Y., Lu, J., & Wang, Y. (2021). The effect of the online and offline blended teaching mode on English as a foreign language learners' listening performance in a Chinese context. *Frontiers in Psychology*, 12, Article 742742. <https://doi.org/10.3389/fpsyg.2021.742742>
- Jonassen, D. H., & Grabowski, B. L. (1993). *Handbook of individual differences in learning and instruction*. Routledge. https://www.routledge.com/Handbook-of-Individual-Differences-Learning-and-Instruction/Jonassen-Grabowski/p/book/9780805814132?srsId=AfmBOoopVrwyHqTlJQ03zLaHC451QjpEGC2fDp3wVLhQeSYY62SN_014
- Joyner, D. A., & Isabell, C. (2021). *The distributed classroom*. Massachusetts Institute of Technology. <https://doi.org/10.7551/mitpress/14095.001.0001>

- Kabii, F., Wamathai, A., M., J. K., & Jilo, N. (2019). Analysis of skill gap in tourism and hospitality industry in Kenya. *ASEAN Journal on Hospitality and Tourism*, 17(2), 95-105. <https://doi.org/10.5614/ajht.2019.17.2.3>
- Kadir, S., Nirwansyah, N., & Bachrul, B.A. (2016). *Technical and vocational education and training in Indonesia: Challenges and opportunities for the future*. National University of Singapore. <https://sea-vet.net/resources/375-technical-and-vocational-education-and-training-in-indonesia-challenges-and-opportunities-for-the-future>
- Kerr, M. S., Rynearson, K., & Kerr, M. C. (2006). Student characteristics for online learning success. *Internet and Higher Education*, 9(2), 91-105. <https://doi.org/10.1016/j.iheduc.2006.03.022>
- Kolb, D. A. (2015). *Experiential learning: Experience as the source of learning and development* (2nd ed.). Pearson. <https://www.pearson.com/en-us/subject-catalog/p/experiential-learning-experience-as-the-source-of-learning-and-development/P200000000384/9780133892505>
- Kuh, G. D., Kinzie, J., Buckley, J. A., Bridges, B. K., & Hayek, J. C. (2007). Piecing together the student success puzzle: Research, propositions, and recommendations. *ASHE higher education report*, 32(5), 1-182. <http://doi.org/10.1002/aehc.3205>
- Kuswoyo, H., Sujatna, E. T. S., Indrayani, L. M., Rido, A., & Macdonald, D. (2021). 'Let's take a look...': An investigation of directives as negotiating interpersonal meaning in engineering lectures. *Pertanika Journal of Social Sciences and Humanities*, 29(1), 47-69. <https://doi.org/10.47836/pjssh.29.1.03>
- Lemay, D. J., Bazalais, P., & Doleck, T. (2021). Transition to online learning during the COVID-19 pandemic. *Computers in Human Behavior Reports*, 4, Article 100130. <https://doi.org/10.1016/j.chbr.2021.100130>
- Liu, Z., Venkatesh, S., Murphy, S. E., & Riggio, R. E. (2021). Leader development across the lifespan: A dynamic experiences-grounded approach. *The Leadership Quarterly*, 32(5), 101382, 10.1016/j.leaqua.2020.101382
- Mak, B., Lau, C., & Wong, A. (2017). Effects of experiential learning on students: An ecotourism service-learning course. *Journal of Teaching in Travel & Tourism*, 17(2), 33-51. https://doi.org/10.1300/J172v05n04_03
- McCombs, B. L., & Whisler, J. S. (1997). *The learner-centered classroom and school: Strategies for increasing student motivation and achievement*. Routledge. <https://eric.ed.gov/?id=ED423496>
- Means, B., & Neisler, J. (2020). Teaching and learning in the time of COVID: The student perspective. *Online Learning*, 25(1), 8-27. <https://doi.org/10.24059/olj.v25i1.2496>
- Ministry of Education and Culture, Research and Technology. (2020). *Pengelolaan pendidikan vokasi yang bermutu pada SMK bidang keahlian kepariwisataan* [Management of vocational education quality at tourism vocational high school]. https://pskp.kemdikbud.go.id/assets_front/images/produk/1-gtk/buku/1629813853_P u s l i t j a k _ 1 5 _ P E N G E L O L A A N _ P E N D I D I K A N _ V O K A S I . p d f
- Morris, T. H. (2020). Experiential learning—a systematic review and revision of Kolb's model. *Interactive Learning Environments*, 28(8), 1064-1077. <https://doi.org/10.1080/10494820.2019.1570279>
- Mutohhari, F., Sutiman, S., Nurtanto, M., Kholifah, N., & Samsudin, A. (2021). Difficulties in implementing 21st century skills competence in vocational education learning. *International Journal of Evaluation and Research in Education*, 10(4), 1229-1236. <http://doi.org/10.11591/ijere.v10i4.22028>
- National Research Council. (2012). *Education for life and work: Developing transferable*

- knowledge and skills in the 21st century*. National Academies Press. <https://nap.nationalacademies.org/catalog/13398/education-for-life-and-work-developing-transferable-knowledge-and-skills>
- Noddings, N. (2016). *Philosophy of education* (4th ed.). Routledge. <https://doi.org/10.4324/9780429494864>
- Nunan, D. (1999). *Second language teaching and learning*. Heinle and Heinle Publishers. https://books.google.co.id/books/about/Second_Language_Teaching_Learning.html?id=svPtAAAAMAAJ&redir_esc=y
- Nurvitasari, F., Supraptono, Eko., Kusumastuti, A., & Sutopo, Y. (2023). Development of soft skills oriented to SPA services (Solus Per Aqua) in the vocational education teaching factory. *Journal of Vocational Career Education*, 8(1), 17-28. <http://doi.org/10.15294/jvce.v7i2.47685>
- Picciano, A. G., Dziuban, C. D., Graham, C. R., & Moskal, P. D. (2021). *Blended learning: Research perspectives* (Vol. 3). Routledge. <https://doi.org/10.4324/9781003037736>
- Pimmer, C., Mateescu, M., & Gröbhiel, U. (2016). Mobile and ubiquitous learning in higher education settings. A systematic review of empirical studies. *Computers in Human Behavior*, 63, 490-501. <https://doi.org/10.1016/j.chb.2016.05.057>
- Prasetyo, E., & Priyana, J. (2021). Tourism vocational high school students' online EFL learning experience during Covid-19 pandemic. *Jurnal Pendidikan dan Pengajaran*, 54(3), 596-610. <https://doi.org/10.23887/jpp.v54i3.38893>
- Puja, I. B. P., Aryasih, P. A., & Widyanthi, D. G. C. (2021). Balancing the high tech and high touch in education: The implementation of humanistic approach on edu-recreation concept in Politeknik Pariwisata Bali. *Journal of Business and Hospitality and Industry*, 7(3), 244-256. <https://doi.org/10.22334/jbhost.v7i3>
- Puspitarini, D., Degeng, I. N. S., Praherdhiono, H., & Suryati, N. (2023). Humanistic pesantren: Systematic literature review and bibliometric visualization analysis on character, moral and ethical values. *Pertanika Journal of Social Sciences and Humanities*, 31(2), 465-490. <https://doi.org/10.47836/pjssh.31.2.01>
- Reeve, J., & Tseng, C. M. (2011). Agency as a fourth aspect of students' engagement during learning activities. *Contemporary Educational Psychology*, 36(4), 257-267. <https://doi.org/10.1016/j.cedpsych.2011.05.002>
- Richards, J. C. (2006). *Communicative language teaching today*. Cambridge University Press. <https://www.professorjackrichards.com/wp-content/uploads/Richards-Communicative-Language.pdf>
- Richards, J. C., & Rodgers, T. S. (2001). *Approaches and methods in language teaching* (2nd ed.). Cambridge University Press. <https://doi.org/10.1017/CBO9780511667305>
- Rido, A., Ibrahim, N., & Nambiar, R. M. K. (2015). Interaction strategies of master teachers in Indonesian vocational classroom: A case study. *3L: The Southeast Asian Journal of English Language Studies*, 21(3), 85-98.
- Rido, A., Kuswoyo, H., & Mandasari, B. (2022). Synchronous and asynchronous online learning in English language classrooms in Indonesia: A literature review. In *Proceedings of the 19th International Conference on Cognition and Exploratory Learning in Digital Age (CELDA)* (pp. 3-10). IADIS Press. https://www.celda-conf.org/wp-content/uploads/2022/11/1_CELDA2022_F_068.pdf
- Rido, A., Nambiar, R. M. K., & Ibrahim, N. (2016). Teaching and classroom management strategies of Indonesian master teachers: Investigating a vocational English classroom. *3L: The Southeast Asian Journal of English*

- Language Studies*, 22(3), 93-109. <https://doi.org/10.17576/3L-2016-2203-07>
- Rido, A., Prakoso, B. H., & Kuswoyo, H. (2023). Thank you very much: Feedback strategies in university English literature lecture interaction. *European Journal of Educational Research*, 12(1), 29-40. <https://doi.org/10.12973/euler.12.1.29>
- Rido, A., Prakoso, B.H., Perez-Amurao, A. L., Purba, M., & Siswanto, H. W. (2024). Synchronous and asynchronous online classrooms in tourism vocational high school in Indonesia: Technological applications and challenges. *Jurnal Sosioteknologi*, 23(1), 53-65. <https://doi.org/10.5614/sostek.itbj.2024.23.1.1>
- Sadler, D. R. (1989). Formative assessment and the design of instructional systems. *Instructional Science*, 18, 119-144. <http://doi.org/10.1007/BF00117714>
- Scholtz, G. J. (2024). Exploratory study of the humanistic philosophy of adult learning as principal philosophy for leadership development. *The International Journal of Management Education*, 22(2), Article 100949. <https://doi.org/10.1016/j.ijme.2024.100949>
- Sharples, M., Adams, A., Ferguson, R., Gaved, M., McAndrew, P., Rienties, B., Weller, M., & Whitelock, D. (2014). *Innovating pedagogy 2014: Open University innovation report 3*. <https://oro.open.ac.uk/94047/1/innovating-pedagogy-2014.pdf>
- Sitzmann, T., Ely, K., Brown, K. G., & Bauer, K. N. (2010). Self-assessment of knowledge: A cognitive learning or affective measure? *Academy of Management Learning & Education*, 9(2), 169-191. <https://doi.org/10.5465/AMLE.2010.51428542>
- So, H. J., & Brush, T. A. (2008). Student perceptions of collaborative learning, social presence, and satisfaction in a blended learning environment: Relationships and critical factors. *Computers & Education*, 51(1), 318-336. <https://doi.org/10.1016/j.compedu.2007.05.009>
- Stewart, D. W., Shamdasani, P. N., & Rook, D. W. (2007). *Focus groups: Theory and practice* (2nd ed.). Sage publications. <https://doi.org/10.4135/9781412991841>
- Sutton, B., & Basiel, A. (2014). *Teaching and learning online: New models of learning for a connected world*. Routledge. https://www.routledge.com/Teaching-and-Learning-Online-New-Models-of-Learning-for-a-Connected-World-Volume-2/Sutton-Basiel/p/book/9780415528573?srsltid=AfmBOooXwnPug2uKyl7f8pydK_HVklFkelq_6pnyw_Dx9DyVtKD76Vjr
- Ulla, M. B., & Perales, W. F. (2021). Facebook as an integrated online learning support application during the COVID19 pandemic: Thai university students' experiences and perspectives. *Heliyon*, 7(11), 1-8. <https://doi.org/10.5334/jime.617>
- Valverde-Berrococo, J., Garrido-Arroyo, M. D. C., Vurgos-Videla, C., & Morales-Cevallos, M. B. (2020). Trends in educational research about e-learning: A systematic literature review (2009-2018). *Sustainability*, 12(5153), 1-23. <https://doi.org/10.3390/su12125153>
- Vygotsky, L. S. (1978). *Mind in society: The development of higher psychological processes*. Harvard University Press. <https://doi.org/10.2307/j.ctvjf9vz4>
- Ziegler, N. (2016). Synchronous computer-mediated communication and interaction. *Studies in Second Language Acquisition*, 38(3), 553-586. <https://doi.org/10.1017/S027226311500025X>

Fostering Edupreneurship Among Students as a Social and Cultural Practice: A Case Study in the German Department at Universitas Negeri Malang

Desti Nur Aini*, Muhammad Iqbal Ikhsani, Erin Alida Damayanti and Iwa Sobara

German Department, Faculty of Letter, Jalan Semarang no. 5 Malang, Universitas Negeri Malang, Indonesia

ABSTRACT

The study aims to promote edupreneurship (educational entrepreneurship) among students through experiential learning and is conducted at the German Department at Universitas Negeri Malang. It endeavors to delineate the infusion of entrepreneurial knowledge and concepts within the learning framework, illustrates the practical application of this knowledge within society by students, and expounds upon the reflective-analysis processes to solidify newly acquired insights. Employing a qualitative descriptive approach, the study collected data through questionnaires, interview sheets, and observation sheets distributed among 12 students enrolled in the *Unternehmendeutsch* course. The ensuing data analysis involved a continuous analytical cycle encompassing data collection, analysis, and interpretation. The findings underscore that this learning mode significantly expands avenues for acquiring knowledge through firsthand experiences, embracing both errors and successes (trial and error). Consequently, experiential learning emerges as a cognitive process, and the learning experience embodies active thinking and experimentation.

Keywords: Cultural, edupreneurship, German, social practice

ARTICLE INFO

Article history:

Received: 18 October 2023

Accepted: 25 July 2024

Published: 16 December 2024

DOI: <https://doi.org/10.47836/pjssh.32.4.12>

E-mail addresses:

desti.nur.fs@um.ac.id (Desti Nur Aini)

muhammad.iqbal.2002416@students.um.ac.id (Muhammad Iqbal Ikhsani)

erin.alida.2002416@students.um.ac.id (Erin Alida Damayanti)

iwa.sobara.fs@um.ac.id (Iwa Sobara)

*Corresponding author

INTRODUCTION

Experiential learning is an educational approach centered on learning from direct experiences. It requires learners to engage with their environment and reflect on the situations encountered. This method, emphasizing experience-based learning, holds more profound significance than traditional didactic learning, which tends to be teacher-centered within a classroom

setting. Through trial and error, learners acquire insights and knowledge that can eventually lead to mastery, illuminating the value of learning from mistakes.

According to (Wurdinger and Allison, 2017), meaningful direct experiences have an educational aspect involving thinking, doing, and detailed explanation. These activities provoke academic inquiry, encouraging learners to analyze situations or problems, plan, test, and reflect. Numerous experts emphasize that experiential learning encompasses various dimensions, such as reflection, critical analysis, and synthesis (Healey & Jenkins, 2000). Within the learning process, learners take initiative, make decisions, and assume responsibility for the outcomes of their activities. Learner engagement in an academic capacity should encompass intellectual, creative, emotional, social, and physical dimensions. Learners ought to organically design these learning experiences to derive valuable insights from diverse mistakes and successes through trial and error.

Learning experiences by students mirror those found in the professional realm. Students engage in various educational activities, including classroom learning focused on project-based methods and task completion, while setting specific goals within limited timeframes and exerting effort toward the success of their endeavors or products (Tisu et al., 2020). Entrepreneurship programs involving early-stage start-ups provide insight to students as they are confronted with real-life conditions through the creation of simple business

prototypes. In alignment with proposed work programs, students receive customer feedback to test business ideas and develop them into sustainable business models. (Shepherd & Gruber, 2021).

Students' entrepreneurial mindsets are closely linked to experiential learning, especially regarding innovation, risk-taking, and success. Bernardus et al. (2023) found a positive relationship between experiential learning and an entrepreneurial mindset, driven by the desire for success and proactive attitudes but not by innovation creation or risk-taking. Conversely, Christensen et al. (2023) argue that experiential learning in entrepreneurship education helps students discover new engagement methods and enhances innovation skills. Such learning positively impacts motivation and innovative outcomes (Ribeiro et al., 2019; Yunfeng et al., 2022). Technology-based business products can thrive in higher education due to abundant resources like experts, research, and technology. Universities can foster environments that support entrepreneurial growth. Further studies on experiential learning's impact on entrepreneurial mindsets in the context of German language learning are needed.

An experiential learning-based educational experience that warrants implementation for students, particularly those in the German Department, is experiential learning offered within Elective and Self-Development Courses (MPPD), specifically *Unternehmendeutsch*. The *Unternehmendeutsch* course delves into themes related to entrepreneurial

learning. The observations of various experts align with the growing phenomenon in Indonesia, where entrepreneurship education is increasingly incorporated or integrated into curricula at different educational levels, with the expectation that every graduate possesses entrepreneurial preparation or spirit (Purnomo, 2015). Entrepreneurship represents a modern phenomenon, evident even in the policy of the Indonesian Minister of Education and Culture regarding Campus Merdeka (Sintiawati et al., 2022), emphasizing the provision of new learning experiences for students beyond the conventional learning environment, both within and outside the study program and campus. Entrepreneurship is highlighted as one of the learning activities within the Campus Merdeka program.

The *Unternehmendeutsch* course emphasizes the progression of learning innovations. Contextual entrepreneurship is a notable aspect of this evolution (Laila et al., 2019). As an Elective and Self-Development Course (MPPD), *Unternehmendeutsch* mandates students to use project-based assessment methods. The course's approach and the targeted innovation aim to empower students to cultivate their potential as a foundational step toward establishing an independent startup business, thus reducing reliance on job opportunities and the conventional workforce. Consequently, proactive endeavors are imperative to provide students with early academic, pedagogical reinforcement and entrepreneurial experiences, including

augmenting their learning experiences within the *Unternehmendeutsch* course.

The *Unternehmendeutsch* course uniquely integrates entrepreneurial principles with language learning by using tools like the business model canvas to create business plans that mirror real-world scenarios. Emphasizing project-based and action-based learning cultivates entrepreneurial skills such as critical thinking, problem-solving, and innovation. Unlike traditional entrepreneurship education models focusing solely on business concepts, *Unternehmendeutsch* incorporates relevant language skills for German-speaking business environments. This dual approach ensures that students grasp entrepreneurial concepts and effectively communicate in international business settings, which is crucial in the global economy.

In integrating experiential learning within the *Unternehmendeutsch* course, researchers followed Kolb's model to tailor the experiential learning process (Healey & Jenkins, 2000). Kolb holds a prominent position among researchers in experiential learning due to his fundamental theory that "Learning is a process in which knowledge is created through the transformation of experience." This concept posits that learning involves a cycle encompassing reflective observation, abstract conceptualization, and active experimentation. A crucial facet of this theory is the association of different stages with diverse learning styles. Recognizing these varied learning styles is the initial step in heightening students' awareness of potential alternative approaches, thereby

enhancing their adaptability to meet the diverse demands of learning situations. Through Kolb's theoretical framework (see Figure 1), students can elucidate the

interconnection between experience and theoretical concepts, facilitating critical evaluation and reflection.

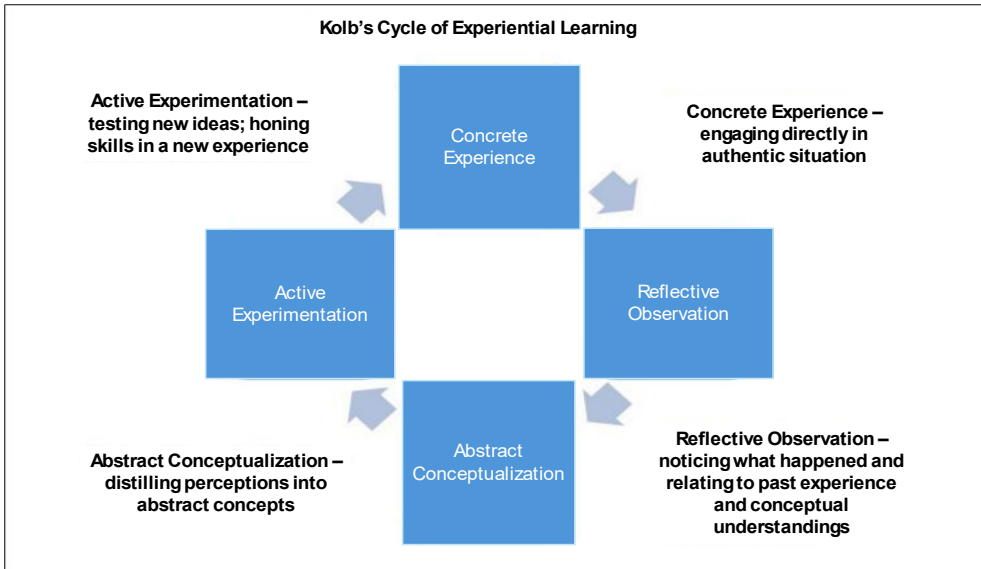


Figure 1. Kolb's Experiential Learning Cycle
Source: Kolb (1984)

The triad of components in experiential learning, comprising reflection, critical analysis, and synthesis, conveys that students have the opportunity to display initiative, make decisions, and bear accountability for the consequent outcomes. This engagement encompasses intellectual, creative, emotional, social, and/or physical dimensions. Carefully structured learning experiences facilitate assimilating insights from natural outcomes, encompassing errors and successes (trial and error).

Within the framework of the *Unternehmendutsch* course, a significant achievement is the endowment of students with fundamental concepts,

an entrepreneurial mindset, and the foundational business development theory through the business model canvas roadmap. In the realm of SMEs, students acquire an understanding of the planning, principles, and concepts pertaining to operational management, businesses in the tourism industry, translation, non-formal language education, master communication and persuasion theories, as well as the marketing of products and services. Genuine learning commences with exploring one's academic potential, as demonstrated by disseminating scholarly works or products.

According to Kolb, the three pivotal elements of experiential learning activities

emanate from the initial activity, commencing with the integration of knowledge and/or fundamental entrepreneurship concepts through case-solving or active participation in the analysis and communication of cases drawn from diverse learning sources. The second activity involves creating prototypes or utilizing appropriate technology to yield project outcomes, generating innovations or inventions aligned with the learning content or product development. The culminating activity encompasses reflection, analysis, and synthesis of knowledge, manifest through case studies, SWOT analysis, and the presentation of product and implementation process results.

In the context of *Unternehmendeutsch's* lectures, student engagement within the series of experiential learning implementations aligns with the experiential learning cycle, as postulated by Kolb. Adopting a project-based learning approach and action-based learning, coupled with experiential learning, both informal and formal learning experiences are anticipated to be organized in harmony with the learning objectives of the German language course for business. The research outcomes are anticipated to provide valuable insights into the requisite framework conditions within lectures and the execution of internships, business mentoring, or start-up ventures within the realm of applied science. Overall, the research findings are poised to demonstrate exemplary practices in entrepreneurship training and learning (*Unternehmendeutsch*) within the sphere of higher education, which will serve as a valuable guide for lecturers engaged in

the conceptualization of entrepreneurship education courses in the academic milieu.

According to Tsaqib and Nasir (2023), entrepreneurship education is a structured learning process that includes theoretical and practical components, often enhanced by specialized training programs to boost entrepreneurial knowledge and skills. These training activities are specifically designed to teach practical aspects of entrepreneurship, such as understanding different types of businesses, fostering creativity, leveraging local potential, managerial skills, accessing capital, and marketing. Yohana (2020) suggests that higher education can increase the number of entrepreneurs by providing comprehensive education that includes guidance, teaching, and training inside and outside the classroom. This education aims to prepare students to effectively participate in the entrepreneurial landscape.

Research in the field of experiential learning has been carried out by Heinze (2020), shedding light on optimal methodologies for entrepreneurship training and education within university settings. It is particularly beneficial for students due to their active involvement in developing entrepreneurial concepts. A subsequent study by Yusuf (2019) emphasized the effectiveness of entrepreneurship learning strategies in equipping students with entrepreneurial skills. What sets this study apart from the aforementioned is the incorporation of Kolb's learning cycle (1984), underlining the cognitive nature of experience-based learning, which involves a fusion of active thinking and experimentation.

According to Anjum et al. (2021), the importance of an innovative entrepreneurial environment and institutional support as facilitators of entrepreneurial initiatives positively contributes to prospective entrepreneurship students. Such a framework assists students in developing and implementing their ideas into viable business ventures. With supportive environments, students can feel more confident in exploring new and innovative ideas, ultimately fostering innovation and business growth. In line with this, Maheshwari et al. (2023) elucidate several factors influencing students' entrepreneurial intentions, including educational, contextual, environmental, psychological, and personality factors. Additionally, Maheshwari highlights other factors based on cognitive aspects, encompassing cognitive styles, self-efficacy, personal attitude, perceived desirability, subjective norm, perceived feasibility, and perceived behavioral control.

Maheshwari et al.'s (2023) findings suggest that cognitive factors alone should not be considered solely to understand students' entrepreneurial intentions. Maheshwari underscores the importance of considering non-cognitive factors in comprehending and measuring students' entrepreneurial intentions. One such factor is the significance of entrepreneurial motivation in driving students to strive harder, showcase their creativity, and overcome obstacles in ideation and implementing new business models (Pham et al., 2023).

The enhancement of experiential learning has emerged as a prominent practice within education, society, and culture. This augmentation encompasses integrating experiential-based learning with a profound comprehension of social and cultural contexts, establishing an exceedingly effective paradigm conducive to sustainable understanding and positive societal transformations. Experiential learning amplifies beyond formal education, encompassing interdisciplinary interactions involving psychology, anthropology, sociology, and the arts (Aini & Winarno, 2022). Such an approach facilitates a broader comprehension of the social and cultural elements influencing learning and individual growth. Moreover, technology and innovation are pivotal in fortifying experiential learning and revolutionizing its nature.

Discussing the social and cultural influences on education, particularly in the course *Unternehmendeutsch*, students' focus is on exploring how social and cultural factors impact individual education and development, as well as the development of intercultural skills. Through the study of German culture and language as a part of the produced output, students can enhance their intercultural competencies, which is particularly crucial in the context of global business with an emphasis on cross-cultural cooperation and communication. Additionally, the implementation of social and cultural practices in this course is examined through the values, beliefs, and attitudes prevailing in society,

which can influence how business and communication are conducted. As the social and cultural environment evolves, students can comprehend its impacts on businesses, including the opportunities and threats arising from such changes. Understanding these related elements is crucial for entrepreneurial students to grasp how businesses can operate within broader social and cultural contexts and how they can adapt and compete in dynamic and evolving environments.

Advanced technologies like virtual simulations, augmented reality, and online platforms allow the replication of real-life scenarios within a controlled environment, enriching the overall learning experience. The reinforcement of experiential learning does not conclude with direct experiences; profound reflection subsequent to experiential-based learning is a crucial element, enabling individuals, specifically students, to establish connections between experiences and abstract concepts, internalize the learning, and apply it in diverse contexts. Experiential learning methods are progressively shifting towards an evidence-based approach, accentuated by an emphasis on evidence-based evaluation. Collecting quantitative and qualitative data aids in assessing the effectiveness of learning, social impact, and resulting behavioral alterations.

Through experiential learning, students' application of knowledge can extend across the entire process of simulating business operations, which includes business plan development, business outlines,

implementation, and reflective assessment. The success of applying this knowledge in real-world settings can be evidenced by almost all products effectively incorporating the expertise and entrepreneurial concepts acquired. These results underscore the effective integration of knowledge into society. A comprehensive understanding and practical application of business knowledge and skills among students, especially in addressing real-world business challenges, are evident in the outcomes of SWOT analysis in experiential learning. Furthermore, using SWOT analysis enhances students' awareness of their business environment and supports the development of appropriate entrepreneurial strategies.

Drawing from this contextual backdrop, this research aims to delineate the learning trajectory of students undertaking the "*Unternehmendeutsch*" course based on the Kolb learning cycle. It entails an exploration of aspects such as (1) the integration of entrepreneurial knowledge and concepts into the learning process, (2) the implementation of activities for applying acquired knowledge within real societal settings, and (3) the modes of reflective analysis as mechanisms to solidify newfound insights.

METHODS

The research aimed to delve into the respondents' thoughts and assumptions, describing the students' capabilities in comprehending the interconnectedness of ideas in learning with a focus on knowledge content and subsequently implementing

them directly. A qualitative descriptive approach was utilized in this research, given that the data collected emphasized the description of the applied learning models, constraints, and weaknesses, which were the main focus of this stage (Wenger-Trayner et al., 2019). The entrepreneurial learning process commenced with input, progressed through the learning process, and culminated in the learning output. Insights gained at each research stage laid the groundwork for refining and aligning the model with the intended model flow, striving for greater effectiveness (Miles & Huberman, 1994). Qualitative research examines the phenomena's nature and is particularly valuable for gaining insights into the reasons behind observed occurrences, assessing complex interventions with multiple components, and improving interventions (Busetto et al., 2020). Data was gathered using student questionnaires, interview transcripts, and observation records.

The research subjects were twelve students taking the *Unternehmendeutsch* course in the even semester of 2022/2023 as research respondents. The selection of research subjects is based on the number of participants enrolled in the ongoing semester's course. The sample size is determined by the total number of students in the German Department at Universitas Negeri Malang who exhibit specific characteristics under exploration, namely, an interest in edupreneurship. This approach ensures comprehensive data collection from all eligible participants, offering a complete

perspective on how the *Unternehmendeutsch* course impacts students' learning and entrepreneurial development. Participants were selected based on specific enrollment criteria during the designated semester. The inclusion criteria are: (1) enrollment in the *Unternehmendeutsch* course, (2) active membership in the German Literature Department at Universitas Negeri Malang, and (3) demonstrated interest in edupreneurship through participation in course activities and project-based discussions. There are no exclusion criteria, as the entire class was included to ensure thorough and representative data gathering.

Ethical considerations were carefully addressed to safeguard participants' privacy and rights: (1) Informed Consent: Participants received detailed information about the research's purpose, procedures, and potential risks and provided informed consent before participation; (2) Confidentiality: Student identities were kept confidential, with data anonymized using group presentation codes instead of names to protect privacy, (3) Voluntary Participation: Participation was voluntary, and students could withdraw from the study at any time without consequences to their grades or course standing and (4) Data Protection: Collected data was securely stored and accessible only to the research team, used solely for research purposes and not shared with unauthorized parties.

The twelve respondents form presentation groups with the following codes (Table 1).

The research subjects' data contain personal and confidential information.

Table 1
Group codes

Code	Meaning	Member
KP 1.	Group 1 presentation	R1 & R2
KP 2.	Group 2 presentation	R6 & R8
KP 3.	Group 3 presentation	R4 & R5
KP 4.	Group 4 presentation	R12 & R7
KP 5.	Group 5 presentation	R9 & R11
KP 6.	Group 6 presentation	R10 & R3

Source: Authors' work

Considering ethical and privacy aspects in data collection and usage among students, the researcher employs respondent data coding in the form of acronyms. This measure ensures the data's confidentiality and proper usage. The respondent codes are provided in the form of acronyms as follows:

- R1: NAL
- R2: RFH
- R3: MII
- R4: AAB
- R5: GAA
- R6: NVS
- R7: ABC
- R8: ZZ
- R9: EAD
- R10: JO
- R11: AR
- R12: IA

In this study, a combination of observation, interviews, and questionnaires served as the principal data collection methods to investigate the perspectives of students in addressing the research problem delineated earlier. The observation process involves collecting data directly through

observing students' behavior, interactions, and activities. The observation includes class observations, group discussions, group projects, and extracurricular activities related to edupreneurship. The objective of observation is to comprehend how social and cultural practices within this department foster and influence students' intentions and behaviors in entrepreneurship.

Below, a comprehensive elucidation of interview guidelines is provided to ensure accurate documentation of the qualitative research process. The respondents were probed on various aspects, including motivation, educational background, and experiences pertinent to their involvement in activities, achievement of anticipated skill development, realization of potential through project-based learning, and overall experiences. Instruments such as observations and questionnaires were utilized to assess the effectiveness of *Unternehmendeutsch's* learning. These instruments were directed at exploring seven key dimensions of entrepreneurship learning: learning dimensions, skills acquisition, assessment criteria and workload, availability of learning resources,

adherence to standards and objectives, as well as the overall impact and quality of the learning process.

After data collection through observation, data analysis is conducted to extract, interpret, and understand patterns and relationships within the data. Data analysis entails a qualitative approach, allowing researchers to interpret observational data within the broader context of social and cultural practices. Thematic analysis is employed to identify themes or patterns emerging from the data, while narrative analysis is used to uncover students' experiences within the context of edupreneurship.

In the *Unternehmendeutsch* course, the researcher acted as a participatory observer, engaging in activities while maintaining objectivity. Data collection methods included field notes, video recordings, and audio recordings to capture student interactions, discussions, and presentations. These field notes provided insights into class dynamics, teaching approaches, and student reactions. Data consolidation involved integrating information from field notes, audio transcripts, and video recordings. Verbatim transcription accurately represented conversations and interactions, forming the foundation for analysis.

Thematic analysis entailed iteratively reviewing transcripts and notes to identify emerging themes, coding them ("creativity in entrepreneurship"), and categorizing similar themes to explore their connections and reflect student experiences. Narrative analysis focused on individual student

narratives from interviews and discussions, recognizing common structures (background, challenges, solutions, outcomes) and interpreting them to comprehend personal experiences in edupreneurship.

The analytical process included open coding (identifying meaningful units), axial coding (establishing relationships between categories), selective coding (integrating core themes), and data validation (member checking). The findings were synthesized into a comprehensive report outlining patterns, themes, and narratives, shedding light on their implications within the realm of edupreneurship.

RESULTS

Integrative Learning of Knowledge and Concepts

Students are encouraged to explore various business dimensions, encompassing planning and execution stages. This course is fundamental to acquiring practical experience through real business projects or simulated scenarios. It is marked by identifying relevant business projects or simulations aligned with the theme of edupreneurship studied by students in the *Unternehmendeutsch* course. Student projects should be designed to integrate knowledge and concepts about entrepreneurship with practical experiences. Entrepreneurial knowledge and concepts are reflected in the presentation themes and case studies. The following table presents data on the integration of concepts and knowledge with a description of the course (Table 2).

Table 2
Concept and thematic integrated knowledge

No.	Theme	Group
1.	Entrepreneurship Creation	KP 1.
2.	Character Education and Self-Potential	KP 2.
3.	Self-Motivation within the Scope of Entrepreneurial Studies	KP 3.
4.	Key Success Factors in Business	KP 4.
5.	Planning Ideas for SME Concepts	KP 5.
6.	Networking	KP 6.

Source: Authors' work

Additionally, a specialized curriculum in the course has been designed to equip students with the knowledge and skills required to design, develop and manage business projects or independent ventures individually. Evaluation and reflection mechanisms are also conducted through interviews and group discussions to assess understanding and skills proficiency (Figure 2).

The subsequent presentation and discussion offer a robust comprehension of entrepreneurial facets, allowing aspiring students to apply these concepts when designing ventures and developing

products (Palesangi, 2012). This iterative process leads to accomplishments that involve internalizing knowledge, attitudes, skills, competencies, and accrued work experience throughout the duration of this course. The data collection methodology encompassed note-taking during each presentation conducted by segmented learning groups (Figure 3), totaling six groups of twelve respondents within the purview of the *Unternehmendeutsch* course. The discussions centered on entrepreneurial ideation, critical success factors within the business sphere, character education and self-development, networking within an



Figure 2. *Unternehmendeutsch* learning process
 Source: Authors' work



Figure 3. Group presentation
 Source: Authors' work

entrepreneurial context, self-motivation within the entrepreneurial sphere, and business planning within micro, small, and medium-sized enterprises (MSMEs).

With six focal discussion points delving into the foundational components of entrepreneurship, students can grasp the crucial steps required from the very inception. They understand how to draw inspiration and ideas from extant case studies. Additionally, they recognize the significance of pivotal factors contributing to entrepreneurial triumph (Hills & Hultman, 2013) and how character development and self-awareness can form a robust underpinning for their entrepreneurial drive. Subsequently, the discussion shifts to networking or collaboration, a critical aspect in commencing a new venture

(Aichner et al., 2021). In this phase, students showcase their proficiency in collaborating with network partners to develop prototype products aligning with their respective visions.

Regarding motivation, employing detailed and precise case examples enables respondents to comprehend how to sustain enthusiasm and drive throughout this research period. Ultimately, the discussion consolidates the steps entailed in business planning for micro, small, and medium-sized enterprises. Students will present their outcomes through a final report or performance report to be submitted at the termination of the data collection week. These outcomes encompass prototype and finalized products, elucidated within the business status table in Figures 4 and 5.

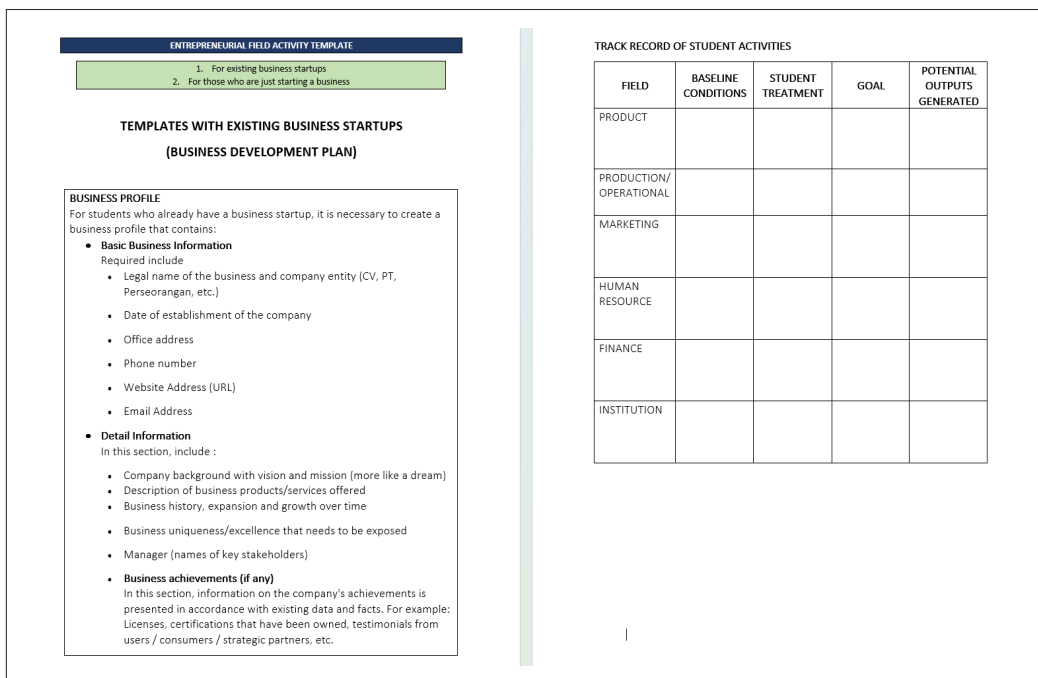


Figure 4. Business development plan (existing business draft)

Source: Authors' work

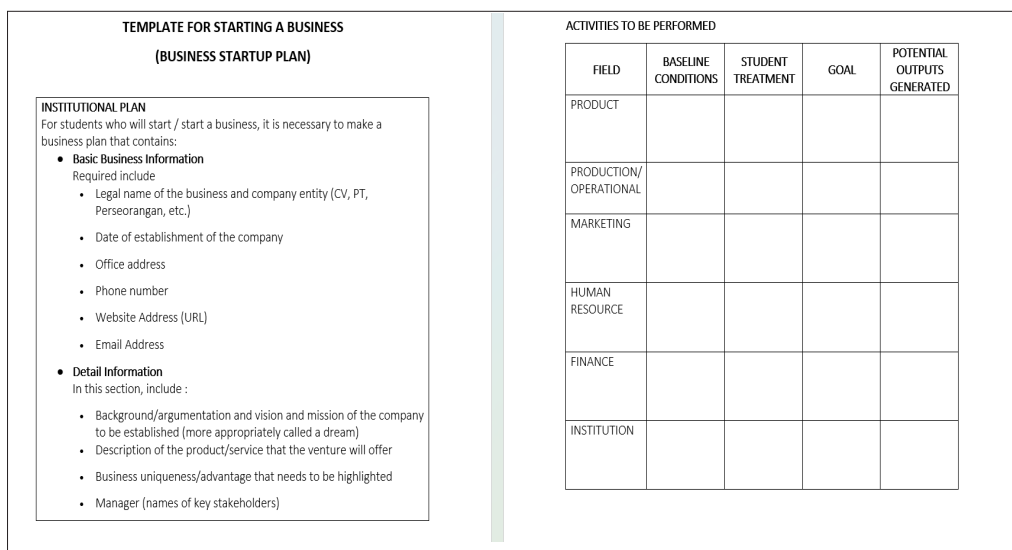


Figure 5. Business development plan (business start-up)
Source: Authors' work

Integration of Knowledge in Practical Endeavors

As an integral component of the *Unternehmendutsch* course, students are tasked with conceptualizing an innovative product or a complementary activity. Throughout the course, they are required to compile two distinct types of reports: a progress report and a performance achievement report. The reporting phase regarding the application of students' knowledge in the *Unternehmendutsch* class commences from the initiation of the assigned task. It continues up to just before the mid-term examinations. Within this reporting process, 12 students are actively engaged and obligated to explain the measures they have undertaken for each product or associated activity they have embarked upon. Anticipated elements to be delineated encompass fundamental

details about the venture, such as company nomenclature, date of establishment, physical address of the office, contact number, website URL, and email address. Additionally, an in-depth exposition of background information, vision, mission, product specifications, distinctive features of the business, company governance, and a brief overview of student endeavors covering product development, production or operations, marketing strategies, human resource management, financial aspects, and institutional framework, is expected to be presented (Table 3).

Performance Achievements of Individual Students and Entrepreneurial Product Endeavors

The performance achievements of each student underscore the multifaceted nature of business activities, necessitating a

Table 3
Completeness of business activities

Respondents	Basic Information	Detailed Information	Product Description	Business Uniqueness	Business Manager	Track Record of Activities
R1	Yes	Yes	Yes	No	Yes	Yes
R2 & R3	Yes	Yes	Yes	Yes	Yes	Yes
R4	Yes	Yes	Yes	Yes	Yes	Yes
R5	Yes	Yes	Yes	Yes	Yes	Yes
R6	Yes	Yes	Yes	Yes	Yes	Yes
R7	Yes	Yes	Yes	Yes	Yes	Yes
R8	No	Yes	Yes	Yes	Yes	Yes
R9	Yes	Yes	Yes	Yes	Yes	Yes
R10	Yes	Yes	Yes	Yes	Yes	Yes
R11	Yes	Yes	Yes	No	Yes	Yes
R12	Yes	Yes	Yes	Yes	Yes	Yes

Source: Authors' work

comprehensive understanding and successful execution across numerous dimensions. The ensuing summary encapsulates the performance of each respondent:

- R1 pioneered a product innovation by conceiving an application to augment the local community's economic productivity. This innovation effectively empowered the local community as independent entities while preserving the traditional cultural heritage of the village in Malang.
- R2 and R3 jointly developed a product innovation named Denkschnell, a learning tool designed to enhance rapid thinking abilities by refining listening and speaking skills in the German language.
- R4 guided a Small and Medium Enterprise (SME) in Kabupaten Malang, which is renowned for its product "MILANI" (Virgin Coconut Oil). This endeavor involved mentoring one of the SMEs engaged in producing Virgin Coconut Oil (VCO).
- R5 materialized the "BUMANTARA PROJECT," a startup venture in the local fashion industry specializing in techwear and streetwear fashion. This initiative saw collaboration with several students from Universitas Negeri Malang.
- R6 pioneered innovation in the form of a German language learning application aimed at aiding individuals grappling with the challenges of learning to read using

a foreign language. The application, named Readle, is meticulously designed to enhance reading skills by offering students an array of beneficial features.

- R7 conceptualized a product innovation known as the DeBuTon Smartbook. This innovative product serves as a learning medium engineered to provide a more innovative and convenient learning experience, especially for those engaged in self-study or pursuing independent learning of the German language.
- R8 developed instructional media through videos elucidating various facets of the German language culture. In these videos, Paula Irmeler, a proficient foreign speaker, assumed the role of narrator, while R8 acted as the voice-over, explicating German cultural concepts in the Indonesian language.
- R9 introduced a product innovation named Clitoria “Tortilla Bunga Telang,” a novel food item particularly beneficial for individuals with diabetes. They also provided essential business information, including name, address, phone number, website URL, and email contact.
- R10 conceived a product innovation recognized as the Hi-Tech Raincoat, denoting a superior and efficient rain

jacket designed for motorcyclists with diverse features to enhance ease of use. R10 presented essential business particulars such as name, address, phone number, website URL, and email contact.

- R11 extended support to a fashion-related business in meeting consumer demands.
- R12 designed a learning application to facilitate students in comprehending German language lessons more effectively.

Given that this project-based activity is a program designed to develop entrepreneurial skills and capabilities in students, the project process begins with several initial stages until the outcomes are achieved. The initial step is the selection of business ideas proposed by the students, which are then developed into more detailed business plans (Table 4). The products generated by the students are classified into three categories: digital business, food business, and service/trade business. Those involved in digital business are R1, R2, R3, R6, R7, R8, and R12. The food business category includes R9. The service/trade business category includes R4, R5, R10, and R11.

The digital business sector encompasses technology applications for rural tourism information systems, educational aids using applications, and audio-visual learning media. Initially, there was a deficiency in digital marketing tools for rural products, leading to reliance on word-of-mouth promotion. Furthermore, there was a need

for educational aids that integrate print and audio-visual media to enhance the learning of the German language. To tackle these challenges, students developed applications and educational tools to promote products and provide basic training in web-based promotional strategies. The objective is to facilitate the use of these applications and introduce products to a wider audience through enhanced technology.

In contrast, the food business category focuses on processing raw materials, such as butterfly pea flowers, into semi-finished or final products. These products are targeted towards individuals with diabetes, leveraging the health benefits identified through surveys. Raw materials are sourced locally, with family members contributing to the production process. Marketing efforts utilize e-commerce platforms within

Table 4
The production process of the applied technology business "Denkschnell"

<i>Denkschnell DIAS Company</i>					
Joyo Utomo Street V Block F, Merjosari, Malang					
0881-1672-101/0821-4080-4337					
TRACK RECORDS OF STUDENT ACTIVITIES					
FIELD	BASELINE CONDITIONS	STUDENT TREATMENT	GOAL	POTENTIAL OUTPUTS GENERATED	DESCRIPTION
PRODUCT	The baseline condition of the product is still a printed form namely game cards. The game was originally CEFR-based and there was no orientation of the ZITRUS method, and with the aim of practicing speaking and listening aspects.	Changed the format to become an app with the aim of modernizing and adding the ZITRUS method for app development. Worked with the app developer and will promote again with the marketing team.	Further complement the learning content through product analysis of the method and prototype refinement. Therefore, by turning it into an application, it will look more modern and can be used by ordinary learners.	Application and research methods on ZITRUS.	Achieved
PRODUCTION/ OPERATIONAL	Baseline production still uses print, namely paper and packaging. Dissemination has not yet left the campus. Only for complementary assignments.	The application was developed in collaboration with the developers as an implementation of the existing card. Development was carried out by IT supervisors and creators.	Updating is necessary because the market for conventional goods is still very difficult to sell.	A beta application for testing and a finished or final application that integrates AR.	Achieved by unable to integrate AR due to unqualified elementary school.

Table 4 (Continue)

FIELD	BASELINE CONDITIONS	STUDENT TREATMENT	GOAL	POTENTIAL OUTPUTS GENERATED	DESCRIPTION
MARKETING	There is no form of marketing done yet, only including Instagram and promotion through college friends.	For treatment after getting the idea, marketing development will be carried out more massively. Making the application as the main menu and using social marketing methods and offers to schools and word of mouth.	The goal is to reach a wider range of consumers and make product branding better and more targeted with marketing supervisors.	Instagram social media accounts, websites, Shopee, and other marketplaces to get the attention of German learners.	Achieved only through Instagram app platform promotion and word of mouth.
HUMAN RESOURCES	Initially, it was only developed by 4 students of the German Language Education Study Program.	The first developers cooperated with informatics engineering students and accounting students who could work in the required fields. Not forgetting about the content that is presented requires a team for content improvement, so a partner for content supervisors from the German Language Education Study Program is also invited.	To better understand the items to be discussed both regarding applications and AR, marketing, and German content.	Build a good network of cooperation and can work together for the initial goal of marketing the DENKSCHNELL application more massively.	Achieved
FINANCE	It is still in the form of collective and self-funding with no income and expenses yet.	Evaluate the cards that have been made and compile expenses for promotion, application creation and income from sales and cooperation.	To clarify the financial flow and not gray because it is only a simple report. There is a planning report on the application.	Financial statements and monthly reports of apps sold to the market.	Not yet achieved because there is no attention even in the form of a card there is no discharge yet.

Table 4(Continue)

FIELD	BASELINE CONDITIONS	STUDENT TREATMENT	GOAL	POTENTIAL OUTPUTS GENERATED	DESCRIPTION
INSTITUTION	Institutions only take the form of peer-to-peer cooperation and use peer-to-peer cooperation.	Collaboration with German-related fields such as Goethe Institute for product validation and working with schools for sales or working with app developers.	To build a larger network and understand a wide rang of applications and views on what learners need through credible and trusted institutions.	Gaining short- and long-term contacts and cooperation with related institutions in development, sales and content.	Not yet achieved

Link mass media publications: <https://ngepop.id/saintek/denschnell-ajak-mahasiswa-sastra-jermanum-belajar-berbicara-melalui-aplikasi>

Source: Authors' work

Indonesia. The final product, butterfly pea flower tortillas, is showcased in the accompanying image (Figure 6).

Students design mockups for their respective products in the service/trade business category. To identify vendors for limited production, students begin by creating trial designs. The marketing strategy involves using a pre-order system and social media to gain exposure and secure bulk orders. However, the marketing efforts are hampered by insufficient preparation



Figure 6. Butterfly pea flower tortilla products

Source: Authors' work

and a limited number of skilled personnel, leading to unmet targets within the set timeframe.

In the entrepreneurial product pursuits domain, 12 respondents have effectively materialized these concepts (Table 5).

From the initial design process to the creation of flagship products in student entrepreneurship, researchers gathered direct learning experiences and perspectives on entrepreneurship. According to R1, experiential learning enhances understanding of basic entrepreneurial concepts through direct product creation and proposal planning. R5 noted that experiential learning in the *Unternehmdeutsch* course increased students' confidence and practical knowledge despite challenges like finding business partners.

The *Unternehmdeutsch* course can internalize entrepreneurial values if students are well-prepared, involve practitioners and mentors, and provide guidance. R3 and R2 emphasized the

Table 5
Types of products



Name	Product Names	Types of Businesses	Product Photos
R1	Tourism Website https://siwismas.com/author/siwismas/	Tourism Application	
R2 & R3	Denkschnell Application	Educational Application	
R4	MILANI (Pure Coconut Oil)	Virgin Coconut Oil (VCO) Product	
R5	BUMANTARA PROJECT	Clothing brand	
R6	Readle Application	Educational Application	

Table 5 (Continue)


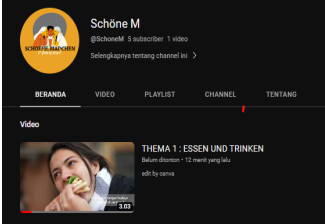


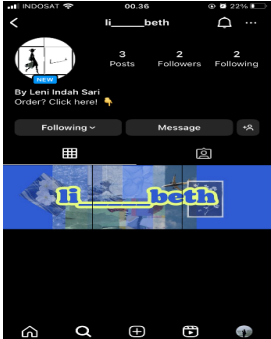
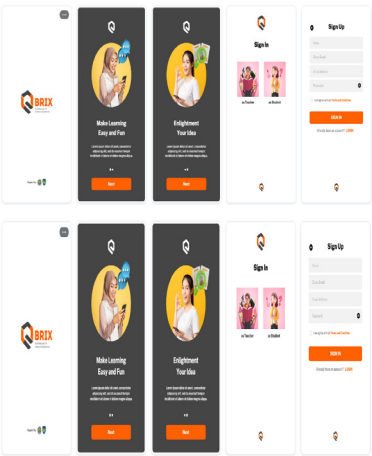
Name	Product Names	Types of Businesses	Product Photos
R7	DeBuTon	Interactive Books	
R8	Schöne M - Youtube Channel	YouTube Channel	
R9	Tortilla Bunga Telang	Food Products	
R10	Raincoat Design	Techwear Brand	
R11	Fashion	Business Mentoring	

Table 5 (Continue)

Name	Product Names	Types of Bsuinesses	Product Photos
R12	BRIX Application	Educational Application	

Source: Authors' work

need for industry practitioners, the latest technology integration, diverse methods like gamification, global networking, soft skills focus, ethics, internships, and incubators to prepare successful entrepreneurs.

Students' perspectives on business practice in the Unternehmenddeutsch course support experiential learning theory, highlighting its importance for developing entrepreneurial mindsets. This research demonstrates that experiential learning enhances students' entrepreneurial abilities, reinforcing the importance of such approaches in higher education (Figure 7).

Reflection-Analysis to Concretize New Discoveries

In terms of product development, various ventures such as the SIWISMAS tourism application, Denkschnell learning platform,

DeBuTon guidebook, BRIX learning application, and Milani VCO products have been realized. Within the experiential learning approach emphasizing reflection, primary weaknesses are identified in six key areas: (1) students' mental attitude and motivation. Students often exhibit a passive or apprehensive mental stance, hindering their entrepreneurial growth. The lack of motivation to embrace risks, innovate, and explore novel prospects can significantly influence entrepreneurial strides. (2) Limited familiarity with entrepreneurship contributes to business and start-up development weaknesses. (3) A pervasive fear of failure constrains initiatives and endeavors toward creating new businesses or products. Students harboring a solid aversion to failure are unwilling to engage in the necessary experimentation pivotal to

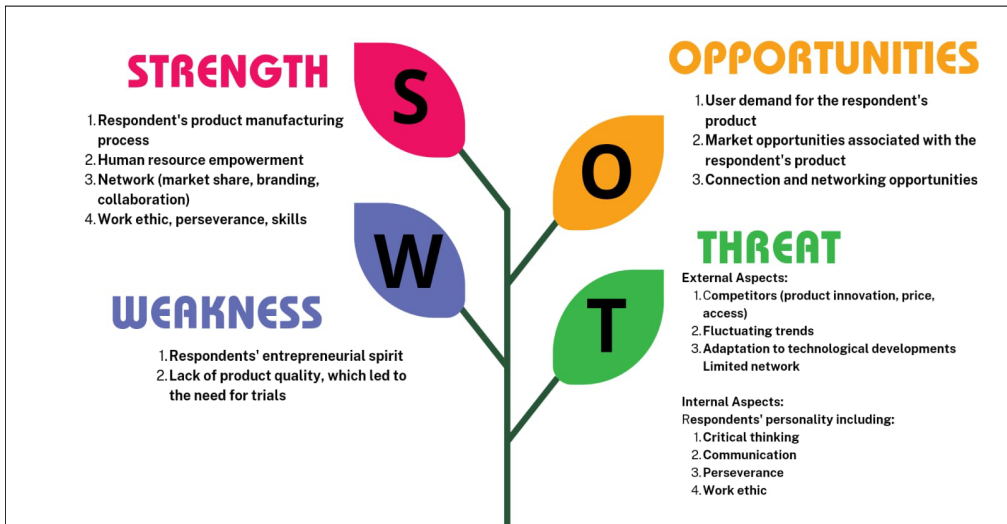


Figure 7. SWOT analysis
Source: Authors' work

entrepreneurship. Conversely, weaknesses manifest in several aspects for products deemed less competitive: (4) innovation is constrained, necessitating heightened ingenuity for products to stand out and differentiate themselves from comparable market offerings. (5) Lesser competitive products may suffer from subpar quality concerning design, raw materials, or production processes. (6) Such products fail to provide substantial added value to consumers, implying an inability to effectively address issues or fulfill consumer needs superiorly compared to alternatives.

A significant opportunity for business development arises when there is robust demand from users or consumers for a particular product or service. High demand indicates unmet needs in the market or an opportunity to enhance existing

products. Identifying user demand can guide businesses in directing their efforts toward developing more relevant and appealing products for the market. External threats pertain to factors originating from the external environment that have the potential to disrupt or influence experiential learning-based entrepreneurship. Conversely, internal threats stem from within the organization or group engaged in experiential learning-based entrepreneurship. In the realm of experiential learning-based entrepreneurship, students must recognize and address both these external and internal threats. The ability to confront these challenges with creativity, resilience, and the aptitude to learn and adapt is pivotal for effective learning in entrepreneurship.

DISCUSSION

Integrative Learning of Knowledge and Concepts

Integrating knowledge and concepts concerning entrepreneurship in education is designed to give learners a comprehensive grasp of the realm of business and entrepreneurship (Winarno, 2015). The integrated learning approach is not solely related to teaching business theory but incorporates tangible experiences in conceptualizing, developing, and managing business projects or ventures. It encompasses a profound understanding of entrepreneurship, surrounding fundamental notions such as innovation, risk, opportunities, business models, marketing, finance, and management.

Students are given opportunities to create business plans, identify market openings, estimate budgets, devise products or services, and address potential challenges in the business environment. In the context of *Unternehmendutsch* (entrepreneurship), project-based learning embodies an educational strategy that amalgamates entrepreneurship principles with hands-on experiences through genuine projects (Chatwattana et al., 2023). The core objective of this approach is to impart to learners a profound understanding of entrepreneurial facets while cultivating practical skills and adeptness in problem-solving within a business milieu. Project-based learning accentuates extensive, interdisciplinary, learner-centric learning activities intertwined with real-world practices and concerns (Wardhani & Riani,

2018). It engages students in sustained research, entailing resource exploration and information utilization (Yong & Saad, 2023). These activities are germane to the practical world, allowing students to govern their work and its outcomes. Furthermore, students reflect upon their learning and evaluate the project's efficacy. The educational journey commences with an in-depth grasp of fundamental entrepreneurship concepts, such as identifying business opportunities, fostering innovation, and conducting market analyses. Students are prompted to identify market gaps or needs that can serve as the foundation for their business projects. After identifying these opportunities, students devise comprehensive business plans encompassing descriptions of products or services, market analyses, marketing strategies, financial forecasts, and operational blueprints. Following this, students develop products or services aligned with their business plans. These activities entail prototyping, product testing, and refinement based on feedback. At this stage, students acquire insights into risk analysis and financial management pertaining to their business projects (Winarno et al., 2021). They learn to identify potential risks and formulate strategies to mitigate their impact. Additionally, they grasp the dynamics of budget management and cash flow within the business context. Students implement their business projects after preparing the business plan, developing products or services, and considering financial aspects. They design and execute marketing strategies, engage with customers, and gather pertinent data.

During the implementation phase, they diligently document progress and challenges encountered. Upon project completion, students evaluate the outcomes based on pre-established success criteria, assessing what was successful and identifying areas for enhancement in the business activities (Mohd Khalid et al., 2023).

This reflective practice serves as a mechanism for deriving valuable insights for subsequent projects (Nicholls, 2010). This method involves presenting the outcomes of projects to instructors, peers, or industry professionals, allowing for the receipt of feedback that offers additional insights and external perspectives. Project-based learning, centered on entrepreneurship, facilitates the integration of entrepreneurial concepts within a practical, real-world context. Students observe the application of theories and concepts in day-to-day business operations, cultivating a deeper understanding and practical skills essential for embarking on a business-oriented career or initiating entrepreneurial ventures (Aras et al., 2021). This experiential learning equips students with practical know-how applicable to real-world business scenarios. In essence, project-based learning with an entrepreneurship theme enables students to harmonize theoretical knowledge with hands-on practice in the development and management of business projects, creating a profound and invaluable learning experience, thus preparing them to confront the challenges present in the realm of business and entrepreneurship.

Integration of Knowledge in Practical Endeavors Within the Community

Applying knowledge in real-world settings refers to tangible practices undertaken by students to apply the knowledge and skills acquired through their education in business and entrepreneurship. Activities such as designing, developing, and managing business projects or independent ventures, as well as integrating knowledge and concepts of entrepreneurship into daily life, represent these endeavors (Amalia & Von Korfflesch, 2021). One successful business project developed by students as part of a program supporting edupreneurship is tutoring businesses. Leveraging students' academic strengths enables them to assist others and potentially generate stable income streams (Schimperna et al., 2021). Successful business projects developed by students within edupreneurship-supporting programs, such as tutoring businesses, demonstrate how education and entrepreneurship can be combined to create innovative and positively impactful solutions. Tutoring businesses serve as an example of how students can use their knowledge and skills to aid others while generating stable income once the business is established. These projects not only harness students' academic abilities but also allow them to develop business and entrepreneurial skills. Tutoring businesses can be run in various formats, online or offline, and can serve as flexible and easily scalable business models. Students can offer tutoring services in various subjects or tailor their services to meet specific client needs

(Liu et al., 2023). Students can use digital platforms to reach a wider audience and offer tutoring services online, enabling them to operate from anywhere.

In the context of edupreneurship, nascent and established business projects provide practical experience in business and entrepreneurship and enable students to apply their knowledge and skills in real-world contexts. This concept represents an innovative solution to challenges in the education system, enhancing learning effectiveness and quality. Additionally, edupreneurship can open doors to new career opportunities, such as forming partnerships or receiving job offers from influential organizations. Overall, edupreneurship has the potential to address social challenges and bridge the gap between education and employment. By focusing on skill and entrepreneurship development, edupreneurs can equip students with the necessary knowledge and abilities to thrive in future business realms.

Reflection-analysis as an Effort to Concretize New Findings

The third focus of this article involves a deep approach to understanding and analyzing how education and culture in the German Department can support and promote edupreneurship (educational entrepreneurship) among students. As a concrete effort to concretize new findings, student business projects offer an interdisciplinary approach encompassing various disciplines, which not only focuses

on a broader understanding of German culture and social context but also on business activities that hone, train, and appreciate the values, norms, and social practices prevalent in society (Anjum et al., 2021). Understanding cultural and social contexts ultimately influences and shapes students' perspectives on entrepreneurial education.

Learning aimed at shaping entrepreneurial spirit needs to be more creative, as the learning of spirit leans more towards the affective realm or aspect (Bazkiaei et al., 2020). Winarno's findings (Winarno et al., 2021) suggest that one form of affective learning in shaping entrepreneurial spirit is the model of internalizing values with stages of identifying old values, cleansing old ideas, introducing new values, and strengthening new values. On the other hand, product innovation reinforcement for excellence requires market testing (Kusumojanto et al., 2021). In the context of edupreneurship, this is highly relevant because students and educators often create innovative products or services to meet social or cultural needs or challenges. Market testing is conducted based on understanding consumer needs and preferences. It means that products or services are often designed to meet social or cultural needs and are uniquely different from similar products. Additionally, product testing is conducted to make data-driven decisions on how products can be improved, expanded, or further promoted (Buratti et al., 2022).

CONCLUSION

The research respondents have proficiently demonstrated the application of entrepreneurial knowledge and concepts, as evident in their presentations covering various topics within the *Unternehmendeutsch* (Business German) course. The integration of knowledge proceeded seamlessly, marked by thoughtful discussions and engaging Q&A sessions facilitated by the students. In applying knowledge, the student's entire process of simulating business ventures was well-structured, encompassing the development of business plans, outlining ventures, implementation, and reflective assessments. Applying this knowledge in real societal settings was notably successful, with almost all products effectively implementing the knowledge acquired from integrating entrepreneurial expertise and concepts. The outcomes achieved by the respondents underscore the effective integration of knowledge into society. Students can comprehensively understand and employ business knowledge and skills to address real-world business challenges by applying a SWOT analysis in experiential learning. Moreover, SWOT analysis enhances students' awareness of their business environment and aids in devising appropriate strategies for entrepreneurship.

This study has substantial implications for theory and practice in education and business. The research findings underscore the potency of experiential learning in fostering the assimilation and application of entrepreneurial knowledge and concepts. This echoes existing scholarly literature on

the pivotal role of active, hands-on learning experiences in education. It also accentuates the pivotal role of SWOT analysis as a valuable instrument for augmenting students' comprehension of their business environment and their capacity to formulate appropriate entrepreneurial strategies. For educators and practitioners, these findings suggest that incorporating experiential learning, particularly through simulations, can significantly enhance students' competence in applying entrepreneurial knowledge. Educators are encouraged to contemplate adopting similar pedagogical approaches in business courses, emphasizing practical application and reflective practices. This approach produces better-prepared graduates poised to tackle real-world business challenges effectively. To acknowledge the limitations inherent in this study, the research was conducted with a relatively modest cohort of respondents. A more extensive and diverse sample could offer a more comprehensive comprehension of experiential learning outcomes in various educational settings. Taking into consideration these limitations, several recommendations are proposed. For example, subsequent studies should strive to replicate these findings within diverse educational contexts and with larger, more diverse participant groups to bolster the generalizability of the outcomes.

Implication of Theory and Practice

The research highlights the substantial impact of experiential learning on assimilating and applying entrepreneurial

knowledge and concepts in education and business. This approach aligns with scholarly literature emphasizing the importance of hands-on learning experiences. The integration of SWOT analysis enhances students' understanding of their business environment and helps them develop appropriate entrepreneurial strategies. For educators and practitioners, incorporating experiential learning through simulations can significantly improve students' competence in applying entrepreneurial knowledge in real-world scenarios. This method is recommended for business courses to produce well-prepared graduates to address real-world business challenges. However, given the study's limitations, such as the modest cohort of respondents, further research should replicate these findings in diverse educational settings with larger participant groups to strengthen the results' generalizability.

Limitations and Recommendations for Future Studies

This study has several limitations. First, the small sample size of twelve students restricts the generalizability of the findings. Second, while rich in detail, the qualitative descriptive approach may not capture the full spectrum of student experiences and outcomes in diverse educational settings. Third, the focus on a single course, *Unternehmendeutsch*, at one university may limit the applicability of the results to other contexts or courses.

Future research should address these limitations by incorporating larger and

more diverse samples to enhance the generalizability of the findings. Expanding the study across multiple institutions and including a variety of entrepreneurial courses could provide a more comprehensive understanding of how experiential learning impacts entrepreneurial education. Furthermore, longitudinal studies could be conducted to assess the long-term effects of experiential learning on students' entrepreneurial skills and career trajectories. Integrating quantitative methods alongside qualitative approaches could also offer a more balanced and robust analysis of the educational interventions and their outcomes.

ACKNOWLEDGEMENT

The authors thank the State University of Malang, Indonesia for financial support in implementing this program through the internal grant funding program.

REFERENCES

- Aichner, T., Grünfelder, M., Maurer, O., & Jegeni, D. (2021). Twenty-five years of social media: A review of social media applications and definitions from 1994 to 2019. *Cyberpsychology, Behavior, and Social Networking*, 24(4), 215–222. <https://doi.org/10.1089/cyber.2020.0134>
- Aini, D. N., & Winarno, A. (2022). Cultural heritage folk crafts management: Contribution to the welfare and stability of local wisdom. *Technium Social Sciences Journal*, 31, 685–692. <https://doi.org/10.47577/tssj.v31i1.6475>
- Amalia, R. T., & Von Korfflesch, H. F. O. (2021). Entrepreneurship education in Indonesian higher education: Mapping literature from the country's perspective. *Entrepreneurship Education*, 4(3),

- 291–333. <https://doi.org/10.1007/s41959-021-00053-9>
- Anjum, T., Farrukh, M., Heidler, P., & Díaz Tautiva, J. A. (2021). Entrepreneurial intention: Creativity, entrepreneurship, and university support. *Journal of Open Innovation: Technology, Market, and Complexity*, 7(1), Article 11. <https://doi.org/10.3390/joitmc7010011>
- Aras, R. A., Ramadhani, K., & Sari, E. P. (2021). Faktor keberhasilan start-up di Makassar [Start-up success factors in Makassar]. *Jurnal Ilmiah Manajemen Bisnis dan Inovasi Universitas Sam Ratulangi*, 8(3), 910–920. <https://doi.org/10.35794/jmbi.v8i3.36757>
- Bazkiaei, H. A., Heng, L. H., Khan, N. U., Saufi, R. B. A., & Kasim, R. S. R. (2020). Do entrepreneurial education and big-five personality traits predict entrepreneurial intention among universities students? *Cogent Business & Management*, 7(1), Article 1801217. <https://doi.org/10.1080/23311975.2020.1801217>
- Bernardus, D., Murwani, F. D., Aji, I. D. K., Radianto, W. E. D., Padmawidjaja, L., Jatiperwira, S. Y., Hitipeuw, I., & Jacob, G. H. (2023). Do entrepreneurial characteristics moderate the relationship between experiential learning and entrepreneurial mindset? *Journal of Educational and Social Research*, 13(1), 106-122. <https://doi.org/10.36941/jesr-2023-0010>
- Buratti, N., Sillig, C., & Albanese, M. (2022). Community enterprise, community entrepreneurship and local development: A literature review on three decades of empirical studies and theorizations. *Entrepreneurship and Regional Development*, 34(3), 1–26. <https://doi.org/10.1080/08985626.2022.2047797>
- Busetto, L., Wick, W., & Gumbinger, C. (2020). How to use and assess qualitative research methods. *Neurological Research and Practice*, 2, Article 14. <https://doi.org/10.1186/s42466-020-00059-z>
- Chatwattana, P., Wangsorn, S., & Promchai, P. (2023). The mobile application via experiential learning for public relations in Thailand. *International Journal of Information and Education Technology*, 13(2), 296–301. <https://doi.org/10.18178/ijiet.2023.13.2.1807>
- Christensen, B. T., Arendt, K. M., & Hjorth, D. (2023). How learning spaces matter in entrepreneurship education: Introducing the concept of topopraxis. *Entrepreneurship & Regional Development*, 35(3–4), 317–336. <https://doi.org/10.1080/08985626.2023.2176549>
- Healey, M., & Jenkins, A. (2000). Kolb's experiential learning theory and its application in geography in higher education. *Journal of Geography*, 99(5), 185–195. <https://doi.org/10.1080/00221340008978967>
- Heinze, A. (2020). How entrepreneurship can be learned through experiential learning formats, especially through training firms. *International Journal of Management and Applied Research*, 7(4), 471–481. <https://doi.org/10.18646/2056.74.20-033>
- Hills, G. E., & Hultman, C. (2013). Entrepreneurial marketing: Conceptual and empirical research opportunities. *Entrepreneurship Research Journal*, 3(4), 437–448. <https://doi.org/10.1515/erj-2013-0064>
- Kolb, D. A. (1984). *Experiential learning: Experience as the source of learning and development*. Pearson.
- Kusumojanto, D. D., Wibowo, A., Kustiandi, J., & Narmaditya, B. S. (2021). Do entrepreneurship education and environment promote students' entrepreneurial intention? The role of entrepreneurial attitude. *Cogent Education*, 8(1), Article 1948660. <https://doi.org/10.1080/2331186X.2021.1948660>
- Laila, A., Cahyanti, L. D., Etica, U., & Trisnaningrum, N. (2019). Acceleration of starts up business in agriculture through improvement of production, financial and marketing system. *ASEAN Journal of Community Engagement*, 3(1), 90–121. <https://doi.org/10.7454/ajce.v3i1.167>
- Liu, M., Gorgievski, M. J., Zwaga, J., & Paas, F. (2023). How entrepreneurship program characteristics foster students' study engagement and entrepreneurial career intentions: A

- longitudinal study. *Learning and Individual Differences*, 101, Article 102249. <https://doi.org/10.1016/j.lindif.2022.102249>
- Maheshwari, G., Kha, K. L., & Arokiasamy, A. R. A. (2023). Factors affecting students' entrepreneurial intentions: A systematic review (2005–2022) for future directions in theory and practice. *Management Review Quarterly*, 73(4), 1903–1970. <https://doi.org/10.1007/s11301-022-00289-2>
- Miles, M. B., & Huberman, A. M. (1994). *Qualitative data analysis: An expanded sourcebook* (2nd ed). Sage Publications. <https://vivauniversity.wordpress.com/wp-content/uploads/2013/11/milesandhuberman1994.pdf>
- Mohd Khalid, N. H., Abdul Latif, A., Megat Zakaria, M. A. Z., Yusof, I. J., & Md Jani, M. D. (2023). Identification of constructs and subconstructs of teacher classroom assessment literacy instrument. *Pertanika Journal of Social Sciences and Humanities*, 31(2), 683–697. <https://doi.org/10.47836/pjssh.31.2.11>
- Nicholls, A. (2010). The legitimacy of social entrepreneurship: Reflexive isomorphism in a pre-paradigmatic field. *Entrepreneurship Theory and Practice*, 34(4). <https://doi.org/10.1111/j.1540-6520.2010.00397.x>
- Palesangi, M. (2012). *Pemuda Indonesia dan kewirausahaan sosial* [Indonesian youth and social entrepreneurship]. *Seminar Nasional Competitive Advantage 2*, 1(2), 1-2. <https://journal.unipdu.ac.id/index.php/seminas/article/view/198>
- Pham, M., Nguyen, A. T. T., Tran, D. T., Mai, T. T., & Nguyen, V. T. (2023). The impact of entrepreneurship knowledge on students' e-entrepreneurial intention formation and the moderating role of technological innovativeness. *Journal of Innovation and Entrepreneurship*, 12(1), Article 80. <https://doi.org/10.1186/s13731-023-00351-7>
- Priyanto, S. H. (2012). Entrepreneurial & vocational learning in entrepreneurship education: Indonesian non formal education perspective. *Basic Research Journal of Business Management & Accounts*, 1(2), 30–36.
- Purnomo, M. (2015). Dinamika pendidikan kewirausahaan: Pemetaan sistematis terhadap pendidikan, pengajaran dan pembelajaran kewirausahaan [Dynamics of entrepreneurship education: Systematic mapping of entrepreneurship education, teaching and learning]. *Jurnal Dinamika Manajemen*, 6(1). <https://doi.org/10.15294/jdm.v6i1.4300>
- Ribeiro, A. T. V. B., Krakauer, P. V. de C., Bonilha, E., & Plonski, G. A. (2019). Spin-off flourishing: A new way for entrepreneurship education through experiential learning processes. *Revista Gestão Universitária Na América Latina - GUAL*, 12(3), 196–215. <https://doi.org/10.5007/1983-4535.2019v12n3p196>
- Schimperna, F., Nappo, F., & Marsigalia, B. (2021). Student entrepreneurship in universities: The state-of-the-art. *Administrative Sciences*, 12(1), Article 5. <https://doi.org/10.3390/admsci12010005>
- Shepherd, D. A., & Gruber, M. (2021). The lean startup framework: Closing the academic–practitioner divide. *Entrepreneurship Theory and Practice*, 45(5), 967–998. <https://doi.org/10.1177/1042258719899415>
- Sintiawati, N., Fajarwati, S. R., Mulyanto, A., Muttaqien, K., & Suherman, M. (2022). Partisipasi civitas akademik dalam implementasi Merdeka Belajar Kampus Merdeka (MBKM) [Participation of the academic community in the implementation of Merdeka Belajar Kampus Merdeka]. *Jurnal Basicedu*, 6(1), 902–915. <https://doi.org/10.31004/basicedu.v6i1.2036>
- Tisu, L., Lupşa, D., Virgă, D., & Rusu, A. (2020). Personality characteristics, job performance and mental health: The mediating role of work engagement. *Personality and Individual Differences*, 153, Article 109644. <https://doi.org/10.1016/j.paid.2019.109644>
- Tsaqib, M. N., & Nasir, M. (2023). Entrepreneurial management for students. *American Journal of Economic and Management Business (AJEMB)*,

- 2(9), 359–365. <https://doi.org/10.58631/ajemb.v2i9.61>
- Wardhani, J. P. K., & Riani, A. L. (2018). Pembelajaran kewirausahaan berbasis proyek [Project-based entrepreneurial learning]. In *Prosiding Seminar Nasional Pendidikan Administrasi Perkantoran UNS* (pp. 54–59). <https://jurnal.uns.ac.id/snpap/article/view/27894/21756>
- Wenger-Trayner, B., Wenger-Trayner, E., Cameron, J., Eryigit-Madzwamuse, S., & Hart, A. (2019). Boundaries and boundary objects: An evaluation framework for mixed methods research. *Journal of Mixed Methods Research*, 13(3), 1–18. <https://doi.org/10.1177/1558689817732225>
- Winarno, A. (2015). Model pendidikan kewirausahaan adaptasi kurikulum 2013 bagi SMK (Diskripsi persiapan dan hambatan penerapan di sekolah) [Entrepreneurship education model adapted to the 2013 curriculum for vocational schools (Description of preparation and barriers to implementation in schools)]. *Jurnal Pendidikan Bisnis dan Manajemen*, 1(1), 1–10.
- Winarno, A., Agustina, Y., & Narmaditya, B. S. (2021). Community entrepreneurship: A social approach in managing business among women in East Java. *Hong Kong Journal of Social Sciences*, 58, 86-89.
- Wurdinger, S., & Allison, P. (2017). Faculty perceptions and use of experiential learning in higher education. *Journal of E-Learning and Knowledge Society*, 13(1). <https://doi.org/10.20368/1971-8829/1309>
- Yohana, C. (2020). Factors influencing the development of entrepreneurship competency in vocational high school students: A case study. *International Journal of Education and Practice*, 8(4), 804–819. <https://doi.org/10.18488/journal.61.2020.84.804.819>
- Yong, M. F., & Saad, W. Z. (2023). Fuelling grammar mastery and 21st century skills through project-based learning. *Pertanika Journal of Social Sciences and Humanities*, 31(1), 99–124. <https://doi.org/10.47836/pjssh.31.1.06>
- Yunfeng, W., Saad, N., & Yusuf, B. (2022). Impact of experiential learning and social entrepreneurship antecedents on social entrepreneurship competency. *Polish Journal of Management Studies*, 26(2), 411–424. <https://doi.org/10.17512/pjms.2022.26.2.25>
- Yusuf, K. (2019). Budaya jawa dalam memperkuat personal branding vlog Bayu Eko Moektito [Javanese culture in strengthening Bayu Eko Moektito's personal branding vlog] *Konvergensi: Jurnal Ilmiah Ilmu Komunikasi*, 2(2), 1–18.

Swiftlet Farming Industry—A White Gold in the Malaysian Housing Market?

Nurul Hana Adi Maimun* and Yeong Ka Choon

Centre for Real Estate Studies (UTM CRES), Institute for Smart Infrastructure and Innovative Construction (ISIIC), Faculty of Built Environment and Surveying, Universiti Teknologi Malaysia, 81310 Skudai, Johor Bahru, Malaysia

ABSTRACT

The swiftlet farming industry is fast-growing and contributes to Malaysia's economic growth. Nonetheless, dirty and noisy surroundings caused by bird droppings and audio systems are unattractive and may adversely impact the housing market. Hence, this study seeks to ascertain the price impacts of the swiftlet farming industry. The first objective defines the hedonic model by reviewing its definition, theoretical framework, methodological process, and house price applications. The second objective explores factors influencing house prices, including the animal farming industry, through a literature review. The third objective evaluates the impact of the swiftlet farming industry on house prices. Ten-year house transaction data and spatial data provided by the Valuation and Property Services Department and Municipal District of Bentong are used to construct the Hedonic model. The result is evaluated based on its logical, statistical and predictive performance. The study found that swiftlet farming in Bentong has a negative impact on house prices, with an inverse price impact that increases with distance from the farming area. Buyers are reluctant to pay for houses near farming due to noise pollution and obstruction. This study supports international and national agendas relating to environment and health sustainability.

Keywords: Externalities, Hedonic price model, house price, LULUs, swiftlet farming

ARTICLE INFO

Article history:

Received: 19 March 2024

Accepted: 12 August 2024

Published: 16 December 2024

DOI: <https://doi.org/10.47836/pjssh.32.4.13>

E-mail addresses:

nurulhana@utm.my (Nurul Hana Adi Maimun)

kcyong95@gmail.com (Yeong Ka Choon)

* Corresponding author

INTRODUCTION

Swiftlet farming is growing edible birds' nests by constructing specifically constructed structures for swiftlets to roost and lay their eggs in (Connolly, 2016a). These nests are

prized for health maintenance (Careena et al., 2018; Ma & Liu, 2012; Zulkifli et al., 2019) and skin supplement (Babji & Daud, 2019; Chan et al., 2015; Daud et al., 2019; Zulkifli et al., 2019) since Tang (618–907 AD) (Zulkifli et al., 2019) and Sung (960–1279 AD) dynasties (Blussé, 1991; Lau & Melville, 1994; Lim, 2006). More specifically, edible bird's nest health benefits include the proliferative effects of corneal keratocytes (Zulkifli et al., 2019). Human adipose-derived stem cells (hADSCs) suppress the influenza A virus's hemagglutination of human erythrocytes, enhance skin complexion and bone strength (Haghani et al., 2016) and strengthen lungs and respiratory system for asthmatic people (Kamaruddin et al., 2019). Edible bird's nest is one of the costliest food items eaten by humans, having a market worth between \$1,000 and \$10,000 per kilogramme due to its high nutritional and therapeutic qualities, as well as the risk and complexity of the nest collecting procedure (Chua & Zulkifli, 2016; Looi & Omar, 2016; Tan et al., 2020). Hence, the terms “Caviar of the East” (Connolly, 2016a; Looi et al., 2016; Thorburn, 2015) and “Tropical White Gold” (Mursidah et al., 2020). Traditionally, nests were harvested in limestone caves by indigenous people in Southeast Asia (Lim & Cranbrook, 2002).

Due to rapid urbanisation, swiftlets are bred inside a converted building, which imitates a cave-like environment and is installed with special equipment to harvest the bird's nest (Merican, 2007; Zulkifli et al., 2019). The swiftlet farming concept

started to bloom in Southeast Asia in the 1990s, resulting from a business shift during the Asian Economic Crisis in years 1997–1998 (Ibrahim et al., 2009). Today, the swiftlet farming industry is one of the most profitable industries in Southeast Asia. Over 30,000 swiftlet farmhouses in Malaysia were built and operated (Connolly, 2016b), generating an estimated annual output of 5,654.7 tons worth RM 1.15 billion (Bernama, 2020). It is projected to increase in production at 11.6% per year (Ministry of Agriculture [MOA], 2011) and reach RM 3 billion by the end of year 2020 (“Eksport sarang burung,” 2020; “MoA sasar eksport,” 2020). Malaysia is currently the world's third largest provider of bird nests, after Indonesia and Thailand, accounting for 9% of the worldwide demand for birds' nests in 2006 (Looi & Omar, 2016). The significance of the swiftlet bird's nest in Malaysia's economic growth resulted in the Economic Transformation Programme, Tenth Malaysia Plan, prioritising the swiftlet bird's nest industry expansion (Looi & Omar, 2016).

The expansion of the swiftlet farming industry significantly transformed urban space and has since stirred some debates and controversies, particularly surrounding the health and well-being of humans. The conversion of a building into a birdhouse is inappropriate and deleterious due to the closed environment, accumulation of moisture and bird droppings, which accelerate the decay of the building, affect the built heritage and are an “eyesore” (Connolly, 2016a; 2017). Swiftlet farms attract insects and infestations, emit foul

smells, spread viruses and bacteria and are noisy, which causes restlessness, increased blood pressure and deadly diseases such as avian influenza, lung respiratory and dengue (Connolly, 2016a). Swiftlet farms located near residential areas have faced multiple complaints on the issue of swiftlet droppings and noise pollution (Ammartsena & Ditthapan, 2023; Chan, 2019; Cheng, 2021; Trung, 2023; Wong, 2017; Yassin et al., 2020).

Residential neighbourhoods that experience negative externalities are perceived as unappealing and undesirable for buying, renting, or investing (Suhaimi et al., 2021; Zihannudin et al., 2021), leading to reductions in prices or rents. Since swiftlet farming areas and other concentrated animal feeding operations (CAFOs) are often regarded as locally undesirable land uses (LULUs) (Isakson & Ecker, 2008), their existence is likely to affect proximate property values. In Nebraska, a man won a lawsuit arguing that the presence of animal farming operation had a detrimental effect on the appraised worth of his opulent house. As a result, the assessed value was reduced to 30%, allowing him to pay less property tax (Aiken, 2002). Therefore, it is highly likely that swiftlet farms can have a similar impact.

This study seeks to assess the price impacts of the swiftlet farming industry on nearby residential in the Bentong region. This paper has two advantages. First and foremost, it enhances academic understanding of the effects of swiftlet farms on housing values. Furthermore, it

provides guidance to individuals involved in the property market regarding property valuation, investment, and making decisions related to purchasing and selling. Previous research suggests that swiftlet farms are expected to have a detrimental effect on the housing market by causing price reductions.

Animal Farming Impact on House Prices

Property prices are sensitive to the effects of location, structure, and neighbourhood (Suhaimi et al., 2021; Zihannudin et al., 2021). The structural qualities encompass the number of bedrooms and bathrooms, the presence of a fireplace and garage, square footage, lot size, structural age, and whether there is a pool. Neighbourhood qualities encompass socioeconomic factors of residents, the condition of adjoining buildings, whether owned or rented, the ethnic makeup of the community, the presence of schools and tax districts, and the overall quality of the environment. Location qualities encompass factors such as the nearness and availability of diverse amenities. According to Alonso's bid-rent theory, individuals are willing to allocate a portion of their money towards securing a desirable location. A residential property in a sought-after location tends to elicit a greater monetary value. In comparison, a dwelling in an unappealing place tends to elicit a lower monetary value. The hedonic model has been extensively used to quantify the effects of location, structure, and neighbourhood on house prices since the 1960s with works from Lancaster (1966),

Ridker and Henning (1967), Griliches (1971), Rosen (1974), & Nelson (1978).

There is also abundant literature applying the hedonic method to quantify the impact of animal farming on residential prices. Previous empirical studies have demonstrated that houses located near animal farming industries may experience a price reduction of up to 16% compared to houses located farther from animal farming industries (Ables-Allison & Connor, 1997; Herriges et al., 2005; Isakson & Ecker, 2008; Milla et al., 2005; Palmquist et al., 1997). Nearby house prices drop because of the fear of loss of amenities, air and/or water pollution risk and increased possibility of nuisances related to odour and/or insects (Hribar, 2010). On average, a hog farm causes a price discount of between 0.3% to 16% for properties located within ½ mile to 1 mile away from a hog farm (Herriges et al., 2005; Milla et al., 2005; Palmquist et al., 1997). The largest effect came from Iowa, where Herriges et al. (2005) noted that properties located downwind from a hog farm may experience a price discount of up to 16% at ¼ mile.

However, this effect disappears after 1½ miles. Palmquist et al. (1997) also noted a decreased effect with increased distance from hog farms. It has also been observed that the size and concentration of animals may also affect residential prices. A farm highly concentrated with animals was observed to have a higher negative impact on nearby residential prices. An additional hog will cause a 3.1% price drop in North Carolina (Milla et al., 2005), an additional 1,000 hogs

will reduce Michigan's property prices by 1.71% (Ables-Allison & Connor, 1997), and an additional number of animal units will reduce Iowa property prices of up to 13.7% (Isakson & Ecker, 2008). Nonetheless, the negative price effect reduces with increased distance from animal farming operations (Isakson & Ecker, 2008). It diminishes for larger animal farms as they are newer, modern and well-managed (Herriges et al., 2005).

Certain studies even indicated a price premium for properties near new, highly concentrated and big-sized animal farming operations. In Minnesota, a new feedlot increases prices for homes within 3 miles of the feedlot (Taff et al., 1996). Meanwhile, in Indiana, the Indiana Business Research Centre (2008) found that multiple animal farming operations increase prices for properties located within ½ and 3 miles of distance from animal farming operations. Adding a 1000-animal unit livestock facility will increase the prices of nearby houses (500 m). Apart from the size and concentration of animal farming operations, the type of animals may also give variations in price impact. Ready and Abdalla (2005) compared price effects across swine and beef and dairy and poultry operations and discovered a larger discount effect for the latter type of animal operation.

An unusual result was discovered by Park et al. (2004), whereby a premium was found for houses located near beef and dairy operations and vice versa for houses located near hog or sheep operations. However, discounts were observed when the size of

the beef and dairy operations was increased, and premiums were observed when the size of the swine operations was increased. Interestingly, poultry operation was found to affect property prices either positively or negatively depending on the distance. Properties located closer to poultry farms (less than 2 miles of distance) enjoy price premiums, while properties located beyond 2 miles of distance from poultry farms suffer price discounts. In another study, the Indiana Business Research Centre (2008) found a premium for swine and beef operations and a discount for dairy operations. The literature has also shown that older and less expensive housing markets were most likely to be negatively affected by nearby animal farming operations (Indiana Business Research Centre, 2008; Park et al., 2004; Taff et al., 1996).

The existing body of literature demonstrated different price impact possibilities from animal farming. A price stigma attached to nearby properties was attributed to unpleasant odours, groundwater contamination and noise from animal farms. Meanwhile, a price premium attached to nearby properties may signify a rural lifestyle that exists with animal farming nearby (Park et al., 2004), increased housing demand from farm labour-driven population growth (Kuethe & Keeney, 2012; Taff et al., 1996) and advanced odour abatement technology in modern animal farming operations (Kuethe & Keeney, 2012). Nonetheless, this unique finding may also have been attributed to insufficient variables or transactions in the Hedonic pricing

model, which may have masked the negative impacts of animal farms (Taff et al., 1996).

Moreover, the negative impact of animal farming operations was very localised in nature, as most studies only indicate that the impact is significant for houses up to one mile from animal farming operations. Previous literature has focused on hogs, swine, and live stocks in the United States of America. Despite the significant number of swiftlet farms in Southeast Asia, particularly Malaysia, and the negative externalities related to swiftlet farming, no one has attempted to quantify the effect of swiftlet farms on home prices. The current Malaysian literature on the impacts of swiftlet farming houses is limited to Md. Yassin et al. (2020). Despite showing the negative perception of local communities towards swiftlet farming houses, the study did not quantify the impact of swiftlet farming houses on the houses of nearby residents. It raises the question of whether swiftlet farms have an impact on house prices. If so, what is the magnitude of the impact?

The impact of proximity to swiftlet farming on house prices is an issue that merits consideration. The degree to which swiftlet farms generate negative externalities needs to be addressed, as prices of nearby homes can be potentially diminished, exaggerated or overstated. Inadequate information on the house price impacts caused by swiftlet farming industries may cause inaccurate market interpretation and estimation, as well as property management and decision-making for an area by property buyers, investors, valuers, estate agents,

property managers, and developers. The negative environmental impacts of the swiftlet farming industry, coupled with the scarcity of the literature on the housing market, highlight the need to quantify swiftlet farming's impacts on house prices. With price estimates in place, the property market players can respond quickly to changes in the market and make more informed decisions.

This study examines prior research on CAFOs, builds a Hedonic model to quantify the impact of living near swiftlet farms, and applies the model to home purchases in the Bentong area. The dirty and noisy surroundings of swiftlet farms in Bentong may impact nearby house prices.

Thus, it is hypothesised that swiftlet farms negatively impact the housing property market, with nearer houses receiving greater price discounts. The findings of this paper contribute to the growing debate on the impacts of animal farming on the housing market.

MATERIALS AND METHODS

Research Location

The study was conducted in Bentong, a district with a population of 128,000 and spread over about 1,832 km² (Majlis Perbandaran Bentong, 2018) in Pahang (Figure 1). Apart from its lumber, eco-tourism, homestay and agro-tourism activities (Kenny & Kanavathi,

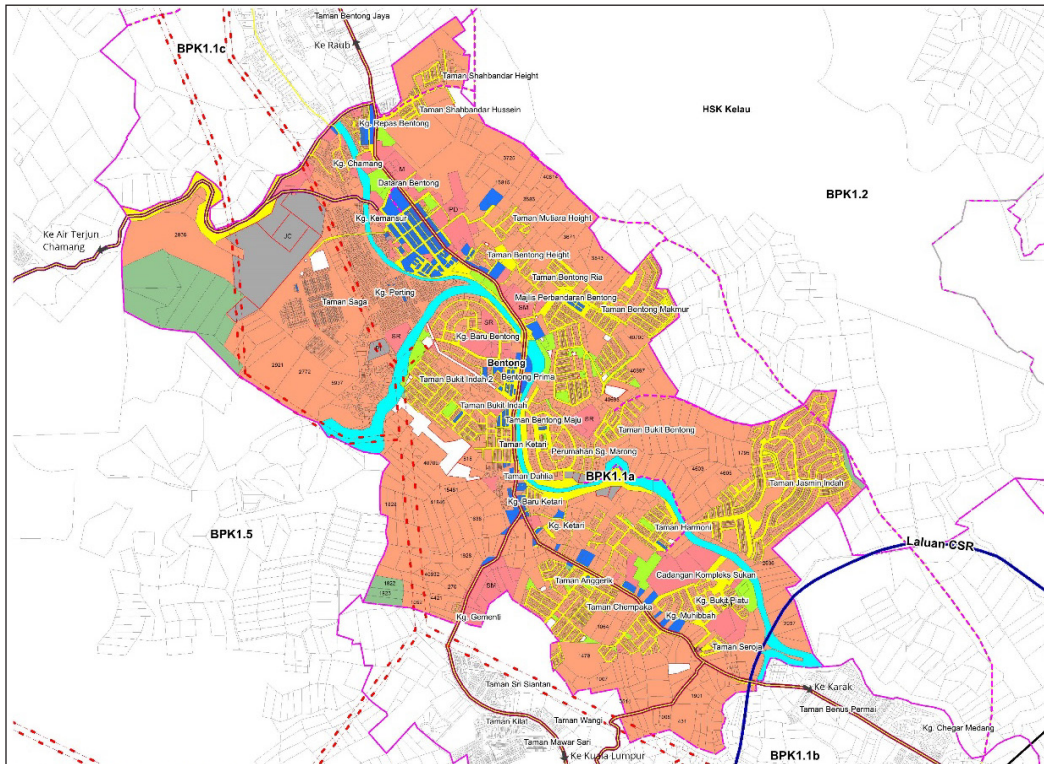


Figure 1: The study area

Source: Bentong Municipal Council (2018)

2016), there is a growing number of swiftlet farming activities in Bentong due to the good environment for breeding swiftlets. Swiftlets' primary foraging environments are wetlands, woodland, and open paddy plains (Petkliang et al., 2017). Thus, the mountains, rivers, and swamps surrounding Bentong provide a complete and long-term food chain for the swiftlets. A residential area 6km away from the heart of Bentong Town with 41 shop lots operated as swiftlet farming since 2009 has been selected as the study area. These converted shop lots were claimed to disturb the residents' daily lives since their operation ("Unlawful swiftlet farming," 2011).

Data Collection

A unified database of house observations transacted between 2009 and 2018 was set up. This database contained transaction price and property price-influencing attributes such as location and structural and neighbourhood characteristics sourced from the Valuation and Property Services Department of Pahang. Meanwhile, the Bentong Municipal Council supplied the spatial characteristics of houses and industrial areas. The distance variable was generated from an overlay of swiftlet farmhouse buffers and the location of houses in ArcGIS 9. Following the collection of data, any duplicate entries and outliers were removed to ensure the data used for analysis was of high quality (Nazri et al., 2022; Rahman et al., 2019; Sa'at et al., 2021). The permissible data range is as follows: the number of bedrooms must be between

three and five, the transaction price must fall within the range of RM 90,000 and RM 490,000, the main floor size should be between 20 m² and 198 m², the house type must be terracing the location should be within a 4000-meter radius of the swiftlet farming house. Following the data cleansing process, researchers could choose 337 properties out of 342 transactions. Table 1 summarises the dataset used in this study.

In the study area, an average house has a land area of 16 2m² and 113 m² of main floor area priced at approximately RM214,566. A large portion of the middle lot (90%) was present in the dataset and corresponds to the Bentong residential property submarket. For comparison purposes, this study selected TM, Y11, FH and >2000 m to represent the middle lot terrace house transacted in 2011 and located more than 2000 metres from the swiftlet farming house area as reference variables. This selection aligns with Field's (2013) recommendation, whereby the reference variables are chosen based on the most frequent or largest instance in each category.

In accordance with previous works, the hedonic regression method was performed as it permits quantification of the impact of location, structure and neighbourhood characteristics (Adi Maimun et al., 2015; Adi Maimun, 2016), including swiftlet farming. The following equation is Rosen's (1974) hedonic price function.

$$P_i = \alpha\chi_i + \sum\beta_k S_{ki} + \sum\beta_q L_{qi} + \varepsilon_i\chi_i \quad (1)$$

Where $i=1, \dots, N$ is the subscript denoting each property; P_i is the property price

Table 1
Descriptive statistics

Variables (N= 337)	Description	Minimum	Maximum	Mean	Standard Deviation
Price	Transaction price (RM/unit)	90000.000	483000.000	214566.250	79807.587
L_Price	Log transaction price	11.408	13.088	12.216	0.340
LA	Land area (m ²)	111.000	421.000	161.740	49.967
MFA	Main floor area (m ²)	71.540	197.700	112.508	38.980
BED	Number of bedrooms	3	5	3.520	0.646
TM	Intermediate lot	0	1	0.900	0.306
TE	End lot	0	1	0.050	0.213
TC	Corner lot	0	1	0.060	0.231
FH	Freehold	0	1	0.820	0.388
Y09	Year 2009 transaction	0	1	0.110	0.313
Y10	Year 2010 transaction	0	1	0.050	0.225
Y11	Year 2011 transaction	0	1	0.320	0.467
Y12	Year 2012 transaction	0	1	0.190	0.395
Y13	Year 2013 transaction	0	1	0.030	0.178
Y14	Year 2014 transaction	0	1	0.090	0.281
Y15	Year 2015 transaction	0	1	0.100	0.298
Y16	Year 2016 transaction	0	1	0.040	0.186
Y17	Year 2017 transaction	0	1	0.040	0.200
Y18	Year 2018 transaction	0	1	0.030	0.170
1000 m	House located within a 1000 metre distance from swiftlet farming	0	1	0.050	0.219
2000 m	House located within a 2000 metre distance from swiftlet farming	0	1	0.040	0.207
>2000 m	House located more than a 2000 metre distance from swiftlet farming	0	1	0.910	0.294

Source: Authors' work

i ; $k=1, \dots, K$ is the number of structural attributes; $q=1, \dots, Q$ is the number of locational attributes; α , β , and ϵ are the corresponding parameters; χ_i is a column vector that consists entirely of ones. Assuming a linear relationship between dependent and independent variables, no multicollinearity between independent variables and normally distributed, not

autocorrelated and homoscedastic error terms. There is no clear direction from theory on selecting the proper functional form for regression (Malpezzi, 2003). However, this study utilises two of the four functional forms available, linear and semi-log functional forms, to represent both the linearity and non-linearity of the pricing. Linear methods quantify the direct monetary

impact of changes in house prices for each unit change in an independent variable. In contrast, semi-log models assess the percentage impact on prices for each unit change in an independent variable (Adi Maimun, 2016).

For this study, transaction prices (dependent variable) were regressed by land area, main floor area, number of bedrooms, type of tenure, position of building, year of transaction, and distance to swiftlet farming area (independent variables) to quantify the price impact of swiftlet farming area (2).

$$\text{Price} = \text{Constant} + (\beta_x \text{LA}) + (\beta_x \text{MFA}) + (\beta_x \text{BED}) + (\beta_x \text{TM}) + (\beta_x \text{TE}) + (\beta_x \text{TC}) + (\beta_x \text{FH}) + (\beta_x \text{YR09}) + (\beta_x \text{YR10}) + (\beta_x \text{YR11}) + (\beta_x \text{YR12}) + (\beta_x \text{YR13}) + (\beta_x \text{YR14}) + (\beta_x \text{YR15}) + (\beta_x \text{YR16}) + (\beta_x \text{YR17}) + (\beta_x \text{YR18}) + (\beta_x 1000\text{m}) + (\beta_x 2000\text{m}) + (\beta_x >2000\text{m}) + \varepsilon \quad (2)$$

In addition to the linear regression model (2), a semi-log regression model (3) was adopted to quantify the percentage of the impact of swiftlet farming areas on house prices.

$$\text{L_Price} = \text{Constant} + (\beta_x \text{LA}) + (\beta_x \text{MFA}) + (\beta_x \text{BED}) + (\beta_x \text{TM}) + (\beta_x \text{TE}) + (\beta_x \text{TC}) + (\beta_x \text{FH}) + (\beta_x \text{YR09}) + (\beta_x \text{YR10}) + (\beta_x \text{YR11}) + (\beta_x \text{YR12}) + (\beta_x \text{YR13}) + (\beta_x \text{YR14}) + (\beta_x \text{YR15}) + (\beta_x \text{YR16}) + (\beta_x \text{YR17}) + (\beta_x \text{YR18}) + (\beta_x 1000\text{m}) + (\beta_x 2000\text{m}) + (\beta_x >2000\text{m}) + \varepsilon \quad (3)$$

The model's performance was evaluated through several statistical tests, which included R Squared (R^2), Adjusted R Squared (R^2), F value, and Sum of Estimated

Errors (SEE) value. A good model will exhibit a value of R^2 and R^2 closer to the number 1, a large F value and a low SEE value (Adi Maimun, 2011; 2016). In addition, the Variation Inflation Factor (VIF) value was generated to ensure no evidence of multicollinearity in the model. A model with a VIF value less than 5 and a tolerance value greater than 0.2 indicates no multicollinearity (O'Brien, 2007).

RESULTS AND DISCUSSION

Table 2 tabulates the regression results for the linear and semi-log models. Both models demonstrate coefficient values matching the theory and acceptable R^2 , F and SEE values. There was no indication of multicollinearity.

An analysis of the impact of swiftlet farming on house prices showed prices decrease with nearer distance to swiftlet farming and vice versa. This finding is consistent with Alonso's (1964) bid rent theory, which claimed that a house in a sought-after location would demand a higher price. In contrast, a house in an unfavourable neighbourhood would fetch a lower price. Thus, the declining prices reflect the buyer's unwillingness to pay more for houses near swiftlet farming. This backs with earlier studies on the detrimental impact of livestock husbandry on local home prices, such as Ables-Allison and Connor (1997), Herriges et al. (2005), Isakson and Ecker (2008), Milla et al. (2005) and Palmquist et al. (1997) and. Houses within 1000 m and 2000 m of swiftlet farming experience a discount of RM25,405 and RM22,963, respectively (19% to 21% of

Table 2
Regression results

Variables	Linear Model		Semi-log Model	
	B (t)	Tol (VIF)	B (t)	Tol (VIF)
Constant	44884.799* (-2.393)		10.998** (134.235)	
LA	512.331** (9.284)	.464 (2.157)	0.002** (9.166)	.464 (2.157)
MFA	975.831** (14.815)	.535 (1.870)	0.004** (14.443)	.535 (1.870)
BED	11195.950* (2.346)	.371 (2.696)	0.081** (3.863)	.371 (2.696)
TM	Reference		Reference	
TE	7564.892 (0.821)	.914 (1.094)	0.072 (1.796)	.914 (1.094)
TC	-14702.116 (-1.276)	.498 (2.009)	-0.062 (-1.234)	.498 (2.009)
LH	-5180.682 (-0.895)	.699 (1.431)	-0.003 (0.127)	.699 (1.431)
1000 m	-25405.054* (-2.193)	.547 (1.829)	-0.187** (-3.703)	.547 (1.829)
2000 m	-22963.456 (-1.812)	.514 (1.944)	-0.209** (-3.780)	.514 (1.944)
>2000 m	Reference		Reference	
Time controlled	Yes		Yes	
R ²	0.823		0.814	
R ²	0.814		0.804	
F	87.530		82.285	
SEE	34413.888		0.1503073	

Note. **denotes p-value significant at 0.01
Source: Authors' work

the price difference) compared to houses located beyond 2000 m of swiftlet farming. It implies that noise pollution and aesthetics concerns by residents of Bentong are indeed reflected in a price discount for houses located near swiftlet farming. Noise pollution caused by the sound of swiftlet tweeters installed on swiftlet farming house premises used to attract swiftlet is the most severe impact of swiftlet farming houses, as Duckett (2010) mentioned.

In regard to aesthetics, the conversion and erection of buildings for swiftlet farming have not only changed the appearance of buildings but also disrupted the scenery of the area. Nonetheless, the impact lessens as houses move farther from swiftlet farming houses. This corroborates Herriges et al.'s (2005) results, who observed no evidence of price discounts for properties located beyond 1½ miles or 2000 m from a hog farm.

CONCLUSION

This study examined the effect of swiftlet farming on Bentong house prices. A hedonic analysis of 337 transactions observed evidence of swiftlet farming's impact on house prices. This finding supported the findings in other countries, namely the United States. Consistent with the location theory, this study found an inverse price impact that enhanced with closer distance from the swiftlet farming area. It implied that there was an optimum distance to swiftlet farming houses that buyers preferred. Buyers were unwilling to pay for houses located near swiftlet farming houses due to the noise pollution and obstruction of view coming from swiftlet farming houses. Nonetheless, the negative price impact diminished for houses located beyond 2000 metres.

This study employed buffers to measure the distance of houses from swiftlet farming. To ensure a more accurate measurement of the price impact, it is suggested that future studies employ individual distance measurement and add other significant variables pertinent to house prices, such as distance to the city centre and facilities and consider a few more swiftlet farming areas which differ in size, concentration and management practices. A comparison across different species of animal farming may also generate interesting findings. A study on the price impact of building after converting into swiftlet farming houses may also be worth venturing in. This study has enhanced further understanding of the swiftlet farming impact on house prices in the body of literature. Swiftlet farming

houses may be white gold to some housing markets but not in Malaysia, specifically within the Bentong area, due to the negative externalities of the swiftlet farming houses. This calls for improved policy enforcement in managing and monitoring swiftlet farms to reduce the negative externalities to the nearby residential area.

The findings may also guide valuers in valuing the impact of swiftlet farming on nearby house prices, specifically to give discounts to houses located near swiftlet farms. Town planners can also establish the optimum buffer size (at least 2000 m) around swiftlet farms in Bentong to ensure a minimal impact on surrounding house prices and residents' health in general.

ACKNOWLEDGEMENT

The authors gratefully thank Universiti Teknologi Malaysia for funding the research through the UTM RA Iconic Grant (Q.J130000.4352.09G71). The authors also thank the reviewers for their helpful recommendations, which enhanced the article.

REFERENCES

- Ables-Allison, M., & Connor, L. J. (1990). *An analysis of local benefit and costs of Michigan hog operations experiencing environmental conflicts*. Michigan State University. <https://doi.org/10.22004/ag.econ.201396>
- Adi Maimun, N. H. (2011). *Spatiotemporal Autoregressive Model for Malaysian housing market analysis* [Unpublished master's thesis]. Universiti Teknologi Malaysia.
- Adi Maimun, N. H., Ismail, S., & Iman, A. H. M. (2015). The spatiotemporal autoregressive model

- for residential property prices. In *Proceedings of the 26th International Business Information Management Association Conference - Innovation Management and Sustainable Economic Competitive Advantage: From Regional Development to Global Growth, IBIMA 2015* (pp. 3902-3915). International Business Information Management Association. <http://www.scopus.com/inward/record.url?eid=2-s2.0-84976406948&partnerID=MN8TOARS>
- Adi Maimun, N. H. (2016). *Price and rent effects of energy efficiency in residential properties: Evidence from the Belfast Metropolitan Area*. [Unpublished doctoral dissertation]. University of Ulster.
- Aiken, J. D. (2004). *Property valuation may be reduced by proximity to livestock operation*. University of Nebraska-Lincoln. https://digitalcommons.unl.edu/cgi/viewcontent.cgi?article=1004&context=coopext_swine
- Alonso, W. (1964). *Location and land use: Toward a general theory of land rent*. Harvard University Press.
- Ammartsena, A., & Ditthapan, S. (2023). The swiftlet house business in Thailand sustainable development goals: Study in the legal and policy. *Environmental and Sustainability Indicators*, 20, Article 100306. <https://doi.org/10.2139/ssrn.4399290>
- Babji, A. S., & Daud, N. A. (2019). Physicochemical properties of glycan within swiftlet's nest (*Aerodramus fuciphagus*) as potential prebiotic. *Acta Scientific Medical Sciences*, 3(9), 9-13.
- Bentong Municipal Council. (2018). *Drafrancangan tempatan Daerah Bentong, Pahang (Penggantian) 2035* [Draft local plan of Bentong District, Pahang (Replacement) 2035]. https://www.planmalaysia.gov.my/planmalaysia/resources/epublisiti/turun/rt_daerahbentong2035/jilid2_petacadangangunatanah.pdf
- Bernama. (2020, July 13). Nilai eksport sarang burung walit dijangka meningkat kepada RM3 bilion [The export value of swiftlet nests is expected to increase to RM3 billion]. *Astro Awani*. <https://www.astroawani.com/berita-malaysia/nilai-eksport-sarang-burung-walit-dijangka-meningkat-kepada-rm3-bilion-251041>
- Blussé, L. (1991). In praise of commodities: An essay on the crosscultural trade in edible birds' nests. In R. Ptak & D. Rothermund (Eds.), *Emporia, commodities, and entrepreneurs in Asian maritime trade, c. 1400–1750* (pp. 317-335). Stuttgart: Franz Steiner Verlag.
- Careena, S., Sani, D, Tan, S. N., Lim, C. W., Hassan, S., Norhafizah, M., Kirby, B. P., Ideris, A., Stanslas, J., Basri, H. B., & Lim, C. T. S. (2018). Effect of edible bird's nest extract on lipopolysaccharide-induced impairment of learning and memory in Wistar rats. *Evidence-Based Complementary and Alternative Medicine*, 2018(1), Article 9318789. <https://doi.org/10.1155/2018/9318789>
- Chan, D. (2019, October 16). MDKL enforces temporary halt to new swiftlet farming licences. *New Straits Times*. <https://www.nst.com.my/news/nation/2019/10/530591/mdkl-enforces-temporary-halt-new-swiftlet-farming-licences>
- Chan, G. K. L., Wong, Z. C. F., Lam, K. Y. C., Cheng, L. K. W., Zhang, L. M., Lin, H., Dong, T. T., & Tsim, K. W. K. (2015). Edible bird's nest, an Asian health food supplement, possesses skin lightening activities: Identification of Nacetylneuraminic acid as active ingredient. *Journal of Cosmetics, Dermatological Sciences and Applications*, 5(4), 262-274. <https://doi.org/10.4236/jcdsa.2015.54032>
- Cheng, L. (2021, October 7). Swiftlet farmers advised to relocate away from densely populated locations. *Dayak Daily*. <https://dayakdaily.com/swiftlet-farmers-advised-to-relocate-away-from-densely-populated-locations/>

- Chua, L. S., & Zukefli, S. N. (2016). A comprehensive review of edible birds' nest and swiftlet farming. *Journal of Integrative Medicine*, 14(6), 415-428. [https://doi.org/10.1016/S2095-4964\(16\)60282-0](https://doi.org/10.1016/S2095-4964(16)60282-0)
- Connolly, C. (2016a). 'A place for everything': Moral landscapes of 'swiftlet farming' in George Town, Malaysia. *Geoforum*, 77, 182-191. <https://doi.org/10.1016/j.geoforum.2016.11.005>
- Connolly, C. (2016b). "Bird cages and boiling pots for potential diseases": Contested ecologies of urban 'Swiftlet farming' in George Town, Malaysia. *Journal of Political Ecology*, 24(1), 24-43. <https://doi.org/10.2458/v24i1.20780>
- Connolly, C. (2017). Whose landscape, whose heritage? Landscape politics of 'swiftlet farming' in a World Heritage City. *Landscape Research*, 42(3), 307-320. <https://doi.org/10.1080/01426397.2016.1267128>
- Daud, N. A., Sarbini, S. R., Babji, A. S., Yusop, S. M., & Lim, S. J. (2019). Characterization of edible swiftlet's nest as a prebiotic ingredient using a simulated colon model. *Annals of Microbiology*, 69, 1235-1246. <https://doi.org/10.1007/s13213-019-01507-1>
- Duckett, R. (2010). Urgent action needed against Penang swiftlet farming. *Aliran*. <https://aliran.com/civil-society-voices/urgent-action-needed-against-for-penang>
- Eksport sarang burung walit dijangka cecah RM3 bilion [Swiftlet nest exports are expected to reach RM3 billion]. (2020, July 13). *Berita Harian*. <https://www.bharian.com.my/bisnes/lain-lain/2020/07/710380/eksport-sarang-burung-walit-dijangka-cecah-rm3-bilion>
- Field, A. (2013). *Discovering statistics using IBM SPSS statistics* (4th ed). Sage.
- Griliches, Z. (1971). *Introduction: Hedonic price indexes revisited*. Harvard University Press. <https://doi.org/10.4159/harvard.9780674592582.c2>
- Haghani, A., Mehrbod, P., Safi, N., Aminuddin, N. A., Bahadoran, A., Omar, A. R., & Ideris, A. (2016). In vitro and in vivo mechanism of immunomodulatory and antiviral activity of edible bird's nest (EBN) against influenza A virus (IAV) infection. *Journal of Ethnopharmacology*, 185, 327-340. <https://doi.org/10.1016/j.jep.2016.03.020>
- Herriges, J., Secchi, S., & Babcock, B. (2005). Living with hogs in Iowa: The impact of livestock facilities on rural residential property values. *Land Economics*, 81(4), 530-545. <https://doi.org/10.3368/le.81.4.530>
- Hribar, C. (2010). *Understanding concentrated animal feeding operations and their impact on communities*. National Association of Local Boards of Health. <https://stacks.cdc.gov/view/cdc/59792>
- Ibrahim, S. H., Teo, W. C., & Baharun, A. (2009). A study on suitable habitat for swiftlet farming. *UNIMAS E-Journal of Civil Engineering*, 1(1), 1-7. <https://doi.org/10.33736/jceest.67.2009>
- Indiana Business Research Center (2008). *The effect of regulated livestock operations on property values in selected Indiana counties*. https://www.ibrc.indiana.edu/studies/indiana_caf_o_cfo_property_impact_2008.pdf
- Isakson, H. R., & Ecker, M. D. (2008). An analysis of the impact of swine CAFOs on the value of nearby houses. *Agricultural Economics*, 39(3), 365-372. <https://doi.org/10.1111/j.1574-0862.2008.00339.x>
- Kenny, K., & Kanavathi, E. S. (2016). Socio economy gap analysis of local communities in District of Bentong, Pahang. *International Journal of Academic Research in Economics and Management Sciences*, 5(3), 43-59. <http://doi.org/10.6007/IJAREMS/v5-i3/2247>
- Kuethe, T. H., & Keeney, R. (2012). Environmental externalities and residential property values: Externalizes costs along the house price

- distribution. *Land Economics*, 88(2), 241-250. <https://doi.org/10.3368/le.88.2.241>
- Lancaster, K. J. (1966). A new approach to consumer theory. *Journal of Political Economy*, 74(2), 132-157. <https://doi.org/10.1086/259131>
- Lau, A. S. M., & Melville, D. S. (1994). *International trade in swiftlet nests (with special reference to Hong Kong)*. TRAFFIC International. https://www.traffic.org/site/assets/files/5581/international_trade_in_swiftlet_nests_with_special_reference_to_hong_kong.pdf
- Lim, C. K., & Cranbrook, G. G.-H. (2002). *Swiftlets of Borneo: Builders of edible nests*. Natural History Publications. <https://www.nhpborneo.com/book/swiftlets-of-borneo/>
- Lim, C. T. S. (2006). *Make millions from swiftlet farming: A definitive guide*. Truewealth.
- Looi, Q. H., & Omar, A. R. (2016). Swiftlets and edible bird's nest industry in Asia. *Pertanika Journal of Scholarly Research Reviews*, 2(1), 32-48.
- Ma, F., & Liu, D. (2012). Sketch of the edible bird's nest and its important bioactivities. *Food Research International*, 48(2), 559-567. <https://doi.org/10.1016/j.foodres.2012.06.001>
- Malpezzi, S. (2003) Hedonic pricing models: A selective and applied review. In O'Sullivan, T. & Gibb, K (Eds.). *Housing economics & public policy*. Blackwell. <https://doi.org/10.1002/9780470690680.ch5>
- Merican, H. S. (2007). *The 2007 Malaysian Swiftlet farming industry report summary and synopsis*. <https://www.scribd.com/document/52589082/The-2007-Malaysian-Swiftlet-Farming-Industry-Report>
- Milla, K., Thomas, M., & Ansine, W. (2005). Evaluating the effect of proximity to hog farms on residential property values: A GIS-based hedonic price model approach. *URISA Journal*, 17(1), 27-32.
- MOA sasar eksport sarang burung walit sehingga RM1.5 bilion [MOA targets swiftlet nest exports up to RM1.5 billion]. (2020, January 20). *Malaysia Dateline*. <https://malaysiadateline.com/moa-sasar-eksport-sarang-burung-walit-sehingga-rm1-5-bilion/>
- Mursidah, Lahjie, A. M., Masjaya, Rayadin, Y., & Ruslim, Y. (2020). The ecology, productivity and economic of swiftlet (*Aerodramus fuciphagus*) farming in Kota Bangun, East Kalimantan, Indonesia. *Biodiversitas*, 21(7), 3117-3126. <https://doi.org/10.13057/biodiv/d210732>
- Nazri, N. A. M., Adi Maimun, N. H., Ibrahim, N. L., Aminuddin, A. J., Adam, U., & Tarmidi, Z. (2022). A spatial hedonic analysis of the effects of swiftlet farm on house prices. *Journal of Advanced Geospatial and Science Technology*, 2(2), 154-162.
- Nelson, J. P. (1978). Residential choice, hedonic prices and the demand for urban air quality. *Journal of Urban Economics*, 5(3), 357-369. [https://doi.org/10.1016/0094-1190\(78\)90016-5](https://doi.org/10.1016/0094-1190(78)90016-5)
- O'Brien, R. M. (2007). A caution regarding rules of thumb for variance inflation factors. *Quality and Quantity*, 41, 673-690. <https://doi.org/10.1007/s11135-006-9018-6>
- Ridker, R. G., & Henning, J. A. (1967). The determinant of residential property values with special reference to air pollution. *The Review of Economic Statistics*, 49(2), 246-257. <https://doi.org/10.2307/1928231>
- Rosen, S. (1974). Hedonic price and implicit market: Product differentiation in pure competition. *Journal of Political Economy*, 82(1), 34-55. <https://doi.org/10.1086/260169>
- Palmquist, R. B., Roka, F. M., & Vukina, T. (1997). Hog operations, environmental effects, and residential property values. *Land Economics*, 73(1), 114-127. <https://doi.org/10.2307/3147081>

- Park, D., Seidl, A. F., & Davies, S. P. (2004). *The effect of livestock industry location on rural residential property values*. Department of Agricultural and Resource Economics. <http://hdl.handle.net/10217/44934>
- Petkliang, N., Gale, G. A., Brunton, D. H., & Bumrungsri, S. (2017). Wetland, forest, and open paddy land are the key foraging habitats for germain's swiftlet (*Aerodramus inexpectatus germani*) in Southern Thailand. *Tropical Conservation Science*, 10, 1-12. <https://doi.org/10.1177/1940082917698467>
- Rahman, S. N. A., Adi Maimun, N. H., Razali, M. N. M., & Ismail, S. (2019). The Artificial Neural Network Model (ANN) for Malaysian housing market analysis. *Planning Malaysia*, 17(1), 1-9. <https://doi.org/10.21837/pmjournal.v17.i9.581>
- Ready, R., & Abdalla, C. (2005). The amenity and disamenity impacts of agriculture: Estimates from a hedonic pricing model in southeastern Pennsylvania. *American Journal of Agricultural Economics*, 87(2), 314–26. <https://doi.org/10.22004/ag.econ.22196>
- Sa'at, N. F., Adi Maimun, N. H., & Idris, N. H. (2021). Enhancing the accuracy of Malaysian house price forecasting: A comparative analysis on the forecasting performance between the Hedonic Price Model and Artificial Neural Network Model. *Planning Malaysia*, 19(3), 249-259. <https://doi.org/10.21837/pm.v19i17.1003>
- Suhaimi, N. A., Adi Maimun, N. H., & Sa'at, N. F. (2021). Does rail transport impact house prices and rents? *Planning Malaysia*, 19(2), 141-149. <https://doi.org/10.21837/pm.v19i16.959>
- Taff, S. J., Tiffany, D. G., & Weiberg, S. (1996). *Measured effects of feedlots on residential property values in Minnesota: A report to the legislature*. University of Minnesota. <https://doi.org/10.22004/ag.econ.14121>
- Tan, S. N., Sani, D., Lim, C. W., Ideris, A., Stanslas, J., & Lim, C. T. S. (2020). Proximate analysis and safety profile of farmed edible bird's nest in Malaysia and its effect on cancer cells. *Evidence-Based Complementary and Alternative Medicine*, 2020(1), Article 80687979. <https://doi.org/10.1155/2020/8068797>
- Trung T. (2023). Solutions to noise pollution due to swiftlet farming. *Vietnam Agriculture*. <https://vietnamagriculture.nongnghiep.vn/solutions-to-noise-pollution-due-to-swiftlet-farming-d351302.html>
- Wong, J. (2017). Bird's nest prices soar after China lifts import ban. *The Star*. <https://www.thestar.com.my/business/business-news/2017/12/18/birds-nest-prices-soar-after-china-lifts-import-ban/>
- Yassin, A. M. D, Masram, H., Shafii, H., Yahya, M. Y., & Musa, S. M. S. (2020). The impact of swiftlet farming house on local communities. *Journal of Tourism, Hospitality and Environment Management*, 5(18), 108-121. <https://doi.org/10.35631/JTHEM.5180010>
- Zihannudin, N. Z., Adi Maimun, N. H., & Ibrahim, N. L. (2021). Brownfield sites and property market sensitivity. *Planning Malaysia*, 19(2), 121-130. <https://doi.org/10.21837/pm.v19i16.957>
- Zulkifli, D. A., Mansor, R., Ajat, M. M. M, Abas, F., Ideris, A., & Abu, J. (2019). Differentiation of Malaysian farmed and commercialised edible bird's nests through nutritional composition analysis. *Tropical Agricultural Science*, 42(3), 871-881.

Determinants of Instructors' Intention to Stay in First Generation Public Universities in Ethiopia: Management and PRs Perspective

Tesfaye Gebeyehu Tessema^{1*} and Salilew Abebe Yadeta²

¹*Department of Media and Communication Studies, College of Social Sciences and Humanities, Jimma University, Ethiopia*

²*Department of English Language and Literature, College of Social Sciences and Humanities, Jimma University, Ethiopia*

ABSTRACT

Organisational turnover intention (TI) is a serious problem among academic staff in Ethiopian universities. For universities to stay competent and attain their vision, retaining qualified and talented academic staff is paramount. The study examines variables determining intention to stay (IS) in First Generation Universities (FGUs). The study involved a cross-sectional correlational study. From three randomly selected FGUs—Jimma University, Hawassa University, and the University of Gonder—the study selected 600 instructors using stratified random sampling. The study used a structured questionnaire to gather information; descriptive statistics and parametric tests served as means of data analyses. As the statistical analysis indicated, being female significantly influenced IS in FGUs. The stepwise regression identified the perceived internal University image (UI) of FGUs, job satisfaction (JS), communication source satisfaction (CS), and organisational citizenship behaviour (OCB) uniquely determining IS in FGUs. The four variables collectively explained 38.8% (Adjusted R² = 38.4%) of the variation in IS. The study recommends strengthening these retention mechanisms and identifying other factors determining IS in FGUs.

Keywords: Communication source satisfaction, Ethiopia, first-generation universities, intention to stay, job satisfaction, organisational citizenship behaviour

ARTICLE INFO

Article history:

Received: 29 March 2024

Accepted: 14 August 2024

Published: 02 December 2024

DOI: <https://doi.org/10.47836/pjssh.32.4.14>

E-mail addresses:

tesgeb00@gmail.com (Tesfaye Gebeyehu Tessema)

salilewabebe@gmail.com (Salilew Abebe Yadeta)

*Corresponding author

INTRODUCTION

Employees are expected to stay longer, work committedly, communicate effectively, and perceive their organisation positively. Retaining experienced, committed, communicative, and optimistic university academic staff is paramount

in achieving organisational vision. It enhances organisational productivity, builds organisational image, and saves resources, time, and energy from employing and training new academic staff. Yunita et al. (2018) read: “Human resources who perform well not only affect the organization’s performance but also will support its sustainability” (p. 451).

FGUs, whose core functions involve teaching, research, and community services, cannot come into the picture without research and publications. To publish a large number of scientific findings in nationally and internationally accredited journals, to win research projects, and to develop curriculum and postgraduate programs, the presence of experienced researchers and professors is crucial. Beram et al. (2023) conclude: “The quality of education is heavily influenced by the professionalism of teachers and the effectiveness of educational leadership” (p. 1363). Hence, in this competitive world, for FGUs, retaining academic staff, especially with assistant professors and above, is essential. But, the problem is the high turnover of these instructors and researchers. At Gonder University, one of the FGUs, the academic staff’s TI was high (Dachew et al., 2016). According to Hailu et al. (2013), about two-thirds (66.6%) of the academic staff who left the College of Health Sciences at Addis Ababa University (AAU) were Assistant Professors, Associate Professors, and Professors.

One of the contributing factors for intent to leave (IL) or stay is the salary system. Not considering work experience

in salary increment triggers intention to leave. Dachew et al. (2016) warn: “Because the current salary system for the academic staff in Ethiopia considers only academic rank rather than service, it may demotivate the more experienced staff” (p. 4). Such a turnover has a negative effect on universities. Hailu et al. (2013) forewarn: “Turnover of faculty and researchers is increasing alarmingly and costing the universities and the country at large” (p.1). If organisations cannot retain employees for a needed time, their chance of rendering quality services that enable them to remain competent is less likely (Hagedorn, 2002). Other researchers suggest: “Such employees [are] worth to retain if organisations want to thrive in the harsh business environment. Getting the best out of the human resources and retaining them is certainly a crucial task faced by management” (Yunita et al., 2018, p. 451).

Some other contributing factors for the IL or IS include but are not limited to socio-demographic factors, OCB, CS, perceptions of internal UI, and JS. With regards to the socio-demographic factors, studies revealed that being male, being married, place of work, work environment, having teaching experience of more than 10 years, being an assistant professorship and above, and being from the Institute of Health significantly related to intention to leave universities (Dachew et al., 2016). A study conducted at Debre Berhan University found that academic staff’s working environment and ethnicity significantly affected their turnover intention (Kebede & Fikire, 2022).

On the contrary, another study found that “being between the ages of 40 to 49, being married, and having a bachelor’s degree were predictors of intent to stay in the nursing profession” (Engeda et al., 2014, p. 1). Nevertheless, as reported by Ferede et al. (2018), demographic factors like “age, marital status, religion, educational status, [work] experience... having children... having an alternative source of income...” (p. 5) did not correlate to leaving intention. Hence, founded on these studies, the current research proposes the following hypothesis:

H1: Work experience has a significant influence on academic staff’s IS in FGUs.

JS magnitude is the other variable that impacts workers’ TI or IS. Findings about the interaction of JS with IS and TI are different. A study conducted in India reported that JS positively impacts the IS (Thakur & Arora, 2022). Conversely, some studies conducted in higher institutes in the Middle East and Africa revealed that JS interacted negatively with TI. Serin et al.’s (2022) investigation, which was administered by the academic staff of Tishk International University in Iraq, and the study by Otache and Inekwe (2021), which was conducted on lecturers with Ph.D. at Nigerian Polytechnic, both uncovered that JS and TI interacted reversely. The finding by Amani and Komba (2016) reads: “There was a significant negative relationship between job satisfaction and turnover intention among the [Tanzanian

public universities] lecturers, whereby those who were highly satisfied were less likely to have the intention to leave their job” (p. 1). Similar findings are reported by studies conducted in Ethiopian higher institutes (Dachew et al., 2016; Guyo, 2023). According to the finding of Guyo (2023), “excessive job satisfaction has a lesser tendency in the direction of absenteeism and resignation” (p. 38) among faculty members in Ethiopian higher education institutes (HEIs).

Looking at the problem deeply, as revealed by many studies, dissatisfaction with “pay and benefit, with autonomy, and professional opportunities” (Dachew et al., 2016, p. 1), “remuneration, cash incentives, work-life balance, supervisor support and employee recognition” (Mendis, 2017, p. 67) significantly influence intent to leave an organisation. According to Dachew et al. (2016), in Ethiopia, most academic employees are less content with their university’s payment and gains, making them look for another job. Suppose academicians recognise that the amount of remuneration they obtain is not fairly related to their work. In that case, they intend to look for another job so that they can satisfy their needs. These researchers reported: “Teachers who were not satisfied on pay and benefit subscale of job satisfaction were nearly two times more likely to leave their job when compared with those who were satisfied” (p. 6). Another local study conducted in three selected public universities found that 45.8 % of academic staff were dissatisfied with their job and confirmed a significant relationship

between job dissatisfaction and leaving intention (Mulie & Sime, 2018). More than ever, the cost of living is rising alarmingly, which could force the academic staff to look for additional jobs or organisations that pay them better.

On the other hand, “satisfaction with autonomy and professional opportunities, scheduling, and pay and benefits...were the significant predictors of intent to stay in the nursing occupation” (Engeda et al., 2014, p. 1). Compared to workers who reported dissatisfaction, workers who felt satisfied with the job’s nature preferred to stay (Ferede et al., 2018; George et al., 2013). The former seek alternative work (Dalimunthe et al., 2017). Hence, JS significantly affects TI and IS. Public relations studies (Hong & Yang, 2009) and marketing studies (Brown et al., 2005) found that customer satisfaction influences positive intentions toward the organisation. JS’s correlation with TI has been investigated extensively earlier. However, comparatively, a body of research investigating JS’s influence on IS in organisations in general and in FGUs in particular is lacking. Hence, the study speculates:

H2: JS strongly relates to the intention to stay in FGUs.

The other contributing factor to staying in or leaving an organisation is CS, a variable emphasised in the study of PRs. In our study, CS refers to overall communication source satisfaction (communication with colleagues and supervisors). Effective communication

motivates workers to be engaged in work and stay in the organisation. Sadia et al. (2017), acknowledging Worldwide (2010), write: “...companies who invest in effective communication strategies have higher engagement and organisational performance” (p. 176). These authors also write that an organisation’s success depends on satisfactory communication. A study among Selcuk University research assistants revealed that overall, CS interacts with JS, and both contribute to employee retention (Gülнар, 2007). Referring to different studies, Alshuaibi et al. (2020) emphasise the influence effective communication has on IS: “As communication plays such an important role in organisational life, effective communication may be related to... low intentions to quit” (p. 1506).

Conversely, ineffective or inadequate communication could have a reversed effect. “If organisational communication is inadequate (employee communication satisfaction is supposed as low), it results... [in] greater employee turnover” (Gülнар, 2007, p. 191). Mohamad (2008), who studied hotel communication, reported that overall communication satisfaction [dissatisfaction] predicts workers’ intention to leave. The study’s participants, whose overall CS was below average, preferred to leave their organisation compared to their counterparts with above-average overall CS. Outcomes from other studies also show that workers who were dissatisfied with managers’ communication had planned not to stay (Greene, 2012; Michael, 2014, as cited in Dalgıç & Akgündüz, 2019).

Another study conducted on critical care nurses reported that all dimensions of CS moderately interacted with TI (Vermeir et al., 2018). According to one tourism-based communication study (Abdien, 2019), “communication climate, supervisory communication, co-worker communication, organisational integration, personal feedback, and media quality” (p. 28) significantly influence employee TI. Mohamad (2008), from Malaysia, concluded that critical communication problems could lead to employee turnover. Alshuaibi et al. (2020) found that the two sub-constructs of CS, “supervisory communication and corporate communication” (p. 1505), influenced TI through organisational commitment. Though many studies support overall CS in predicting TI, studies regarding the degree to which CS influences IS in FGUs are lacking in different settings. Thus, based on these studies, the researchers propose the following hypothesis:

H3: CS strongly influences academic staff's IS in FGUs.

The other intent-determining variable is OCB, which is given due attention in management and PR studies (Hon & Grunig, 1999). Committed and well-behaved workers characterise stronger OCB. When injustice prevails in organisations, OCB is negatively affected, and this, in turn, triggers TI. In this regard, an unhealthy organisational culture, which includes, but is not limited to, recruiting and seeking the wrong employees—demotivated and less

committed employees—are underlying factors that cause fast turnover in many organisations (Hailu et al., 2013). Such bad practices increase turnover, and higher turnover of employees affects the firmness of the employing institution by eradicating talented and committed professionals from the organisation (Woltmann et al., 2008), and losing well-mannered and talented employees with extra commitment is a PR crisis. The study of Nadiri and Tanova (2010) found a negative association between TI and OCB.

“...High continuance commitment and high normative commitment [sub constructs of OCB] were the significant predictors of intent to stay in the nursing profession” (Engeda et al., 2014, p. 1). Conversely, Alshuaibi et al. (2020) reported that organisational commitment inversely correlates to TI. From the three sub-constructs of OCB, low normative commitments were reported as a significant predictor of academic staff's TI. Ferede et al. (2018) note: “Professionals with a low level of normative commitment, who do not feel they have the obligation to remain and serve their organisation, may reveal the desire to leave out than staying” (p. 6). Conversely, Shanker (2018) found that OCB positively influences employees' IS. A PR study by Kang (2014) concluded that affective commitment, which is a manifestation of OCB, impacts supportive behavioural intention toward an organisation. Thus, this study hypothesises:

H4: OCB strongly influences academic staff's IS in FGUs.

Finally, another factor that determines IS or TI is the perceived image of an organisation, a variable that is given significant attention in PR studies. If employees have a positive perception of their organisation, they prefer staying there to leaving. One mechanism of creating a positive image of an organisation is giving the required support to its employees. When employees get the necessary support from their organisation, it is more likely that the stress they experience from work is minimised. The study of Yunita et al. (2018) hypothesised: "perceived organisational support will have a significant and negative effect on turnover intention and stress"; however, the findings from their study did not back up the hypothesis of turnover intention but stress. They conclude: "Higher occupational stress will lead to the increasing turnover intention" (p. 454). According to Rho et al. (2015), organisational image positively correlates to identification, where the latter significantly influences absenteeism. The study of Brown et al. (2005) found a positive relationship between corporate reputation and behavioural intention toward the organisation. The relationship between internal organisational image and IS is also less examined than external image in different situations, especially from the perspective of PRs.

Most notably, scholars and practitioners have recognised the importance of managing organisational image in crisis

situations from the perspective of public relations or reputation management. Compared with the scholarly and practical attention paid to managing the perceptions of outside constituents, little is known about how these images can influence organisations inside members' everyday work (Rho, 2015, p. 428).

Particular to FGUs, a dearth of studies measure the internal organisational image's interaction with IS. Thus, the study hypothesis:

H5: Perceived favourable internal image strongly influences academic staff's IS in FGUs.

As these studies show, the magnitude (high vs low) of planning to stay in universities will forecast their staying behaviour. Hence, to minimise the level of TI, it is important to examine variables that determine the IS in FGUs. That is to say, FGUs need to identify what influences the instructors and researchers to stay in the universities.

The study of behavioural intention as a dependent variable is not new in PRs, marketing, journalism and communication studies but is limited. A PR study by Ki and Hon (2007) found that perception of satisfaction, commitment and trust (manifestations of OCB) influenced behavioural intention toward the organisation through a positive attitude. Other prior research in public relations (Hong & Yang, 2009) and marketing (Brown

et al., 2005) shows that customer satisfaction and corporate reputation are positively associated with behavioural intention toward the organisation. Social media communication and customer satisfaction predict behavioural intention (Fazal et al., 2021). Yet, as shown earlier, most reviewed studies were conducted with TI. However, studies considering important variables (JS, OCB, UI, and CS) that determine intent to stay in the FGUs in Ethiopia, especially in PR research, lack, and even the existing ones (reviewed in this paper) incline to health, hotel, and tourism industries.

Nevertheless, the findings are in conflict. On top of that, PR studies that consider theories/models (Social Exchange Theory; Social Intelligence Construct) that have been applied to frame the current study are rare in the context of FGUs. Thus, the finding from this study not only narrows the existing research gap but also enables FGU's management and PRs directorate to examine their internal situation about whether this intention is present and to hold or reduce the loss of instructors and researchers accordingly. "If the ultimate goal of public relations is to build mutually beneficial relationships between an organisation and its public, then measuring the outcomes of those relationships provides an important indicator of public relations effectiveness" (Ki & Hon, 2007, p. 2). Therefore, the study aims to examine variables that determine IS in FGUs. The study answers the following research questions:

1. Which demographic characteristics significantly relate to IS in the FGUs?

2. Which variables (CS, JS, OCB, UI) strongly predict IS in FGUs?

REVIEW OF RELATED THEORIES

This part briefly reviews two leadership theories, the Social Exchange Theory and the Social Intelligence Construct (Model, Theory), as they are assumed to fit the current study.

Social Exchange Theory (SET)

SET is an appropriate theory for studies that examine intention (Eketu & Ogbu, 2015). According to them, SET was first proposed by Thibault and Kelley in 1959. The theory states that partners or stakeholders assess the balance between what they give and get in exchange. In an organisational context, employees expect to be reciprocated for their contribution. According to SET, in relation to the current study, when employees are reciprocated for their contribution by the employing organisation, they will display OCB—give their best, perform extra, feel connected to the organisation, and be more motivated and satisfied (JS); perceive their organisation positively (organisational image), and intend to stay more rather than looking for another job (Bunderson, 2001; Coyle-Shapiro & Kessler, 2000, as cited in Mustapha et al., 2010). Eketu and Ogbu (2015), who framed their study by SET, referring to Mossholder et al. (2005), propose: "individuals who felt that they had received benefits from others would later feel an obligation and then compensate through effort and loyalty" (p. 30). Conversely, if the employees are not

reciprocated for their contribution, they will become demotivated, dissatisfied, discouraged, and reluctant, which in turn leads to turnover intention. A study reads: “From a social exchange perspective when parties privy to the relationship are mutually satisfied with exchanges, they will continue and vice versa” (Gutierrez et al., 2012, as cited in Kakar et al., 2019, p. 77).

Chew (2004) also applied SET in her PhD thesis to retain core employees in SMEs in Australia. Her study concluded that different variables, including organisational commitment, could influence the intention to stay. Other studies (Snape & Redman, 2003; Somers, 2009) also concluded that employees who had a high level of affective attachment to an organisation and a favourable perception of the employing organisation were less likely to withdraw.

Relating it to the current study, according to SET, the academic staff does its best in teaching, research, and community services. It intends to stay more in the university when s/he gets the reciprocated benefits from FGUs. To know whether such a reciprocal relationship exists in FGUS and to take an informed decision-making process, examining the relationship between the predictor variables OCB, JS, CS, IUI, and the outcome variable IS is important. Therefore, this study attempts to explain the extent of the relationship using SET. Eketu and Ogbu (2015) also suggest applying SET for intention investigating: “Intention to stay has its base on social exchange theory” (p. 30).

Social Intelligence Construct

Social Intelligence is one of the theories of leadership originally coined by American psychologist Thorndike (1920, as referred to in Eketu & Ogbu, 2015). According to Koch (1997), “Social intelligence is a personality trait that refers to an individual’s ability to interpret correctly their [his/her] environment and [to] take the appropriate action” (p. vii). A simple definition of social intelligence is “the ability to get along well with others” (Moss & Hunt, 1927, as cited in Eketu & Ogbu, 2015, p. 28). It also refers to the ability to understand and manage people, which is demonstrated in interpersonal relationships (Albrecht, 2009). It is characterised by integrated skills such as effective listening, conversation, speaking, management, understanding people, and knowledge of social interaction and rules.

In the context of an organisation, the theory argues that leaders with social intelligence traits are in a better position to solve social and organisational problems through an informed decision-making process. Empirical studies also support this claim. For example, Alemdar et al. (2023) concluded that social intelligence significantly predicts leadership effectiveness across multiple situations. One of these situations is leader-employee interaction. As stated in the introduction of the current study, understanding-based communication and interacting effectively “may be related to... low intentions to quit” (Alshuaibi et al., 2020, p. 1506). The current study will apply this construct to explain how communication satisfaction

(level of interaction between academic staff and the management at different levels, including PR managers) influences intention to stay in FGUs.

The focus and setting of the sources reviewed here differ from the current study. For example, Eketu and Ogbu (2015) focused on assessing the relationship between social intelligence and employee intention to stay in selected hotels in Nigeria. Chew (2004) focused on examining “the influence of human resource management practices on retention of score employees of Australian Organizations”. However, the current study examines the determinants of intention to stay in FGUs in Ethiopia. The study hypothesises that CS, JS, OCB, and internal UI collectively influence IS.

METHODS

Research Setting

Data were collected from Jimma University, the University of Gonder, and Hawassa University. Jimma University is about 352 km southwest of Addis Ababa's capital. The University of Gondar is located about 653 km North of Addis Ababa. Hawassa University is 288 km away from Addis Ababa, towards the South. The quantitative data were collected from November 2021 to June 2022.

The Research Design

A cross-sectional correlational design was employed to determine the determinants of IS in FGUs. In other words, the study attempted to determine whether the predictor

variables strongly interact with IS in the context of FGUs.

Participants of the Study and Sampling Technique

A multi-stage sampling strategy was applied to select the participants of the study. Academic staff (from technical assistants to full Professor) of eight first-generation universities, Jimma University, AAU, the University of Gonder, BahrDar University, Adama Sciences and Technology University, Aramaya University, Mekele University, and Hawassa University were considered the population of the study. Among these, 50% or four universities: Jimma University, from Oromia, the University of Gonder (from Amhara), Mekele University (from Tigray), and Hawassa University (from South Nations and Nationalities People/SNNPR) were randomly selected using rolled lots. Further, from each sample university while two colleges—Colleges of Social Sciences and Humanities (CSSH) and College of Natural Sciences (CNS)—were selected using a lottery method, Institute of Technology (IT), where large number of the academic staff clustered, was selected purposefully.

In studies involving things like attitude scales, personality measures, and so forth, the rules of thumb recommend a sample size of 400+ as great for a 95% confidence interval. Further, where the questionnaire return rate is expected to be lower, taking into account 40 to 50% of contingency is important (Fetene, 2009; Gregory et al., 2008, as cited in Bujang et al., 2017). Hence, 600 (400 plus 50% X 400 = 400+200) is

the sample size. Their proportion for each college, CSSH ($n = 55$), CNS ($n = 53$), and IT ($n = 92$), was determined based on proportional stratified random.

Inclusion and Exclusion Criteria

Survey participants from the CSSH, the CNS, and the IT (from three universities: Jimma, Gonder, and Hawassa) were included in the study. However, survey participants from Mekele University were not included in this study for various reasons, although they had been part of the plan. The first reason is that, though an official letter of collaboration was produced, the IT was not willing to give the researcher [data collector] the list of instructors (sampling frame) associating the study with politics (security of its academic staff). At the same time, the CSSH and the CNS willingly provided the list of the instructors. Secondly, the number of participants who filled out and returned the questionnaire from these two colleges was very small. Thirdly, because of the unfavourable situation (war between the Tigray Defence Force (TDF) and the government of Ethiopia), the researchers could not go to the area for further attempts. However, they gathered the qualitative data, which is not part of this manuscript, before the outbreak of the war.

Data Gathering Instruments

A structured questionnaire was constructed adapting from different standardised questionnaires (Downs & Hazen, 1977; Organ & Konovsky, 1989; Wang et al., 2012). The content of the questionnaire

entails perceived internal UI, IS, JS, CS, OCB, and demographic characteristics. From the distributed 600 questionnaires (200 for each college), 590 were returned, but only 587 were correctly filed. In this study, consent was obtained from the study participants and the colleges.

The internal reliability of the questionnaire has been checked. Consequently, IS (2 questions, Cronbach's alpha .700) and the independent factors—OCB (14 questions, Cronbach's alpha .858), JS (19 questions, Cronbach's alpha .917), CS (5 questions, Cronbach's alpha .892), and UI (14 questions, Cronbach's alpha .858), were confirmed. The measurement applied a five-point (agree, disagree) scale, which was converted to continuous data during analysis. Experts in the area also checked the internal and face validities. All the constructs were factor analysed using principal component analysis (Varimax Rotation Method), and a cross-loading score of $\geq .50$ was considered; hence, construct validity was established.

Procedures

First, the questionnaire was piloted on 25 instructors selected from three departments belonging to the CNS (during the main study, these departments were excluded from filling out the questionnaire). The survey questionnaire was distributed to the selected participants from Jimma University, Hawassa University, and the University of Gonder, in that order, by trained data collectors. During the first round of questionnaire distribution, the

return rate was low. To undo the problem, a second round of distribution was made. Data cleansing was done as soon as the researchers received the returned questionnaires.

Analysis

The study considered descriptive statistics to calculate mean, median, standard deviation, frequency, and percentage. Pearson Correlation was applied to measure the magnitude of interaction among variables. Hierarchical multiple regression analysis was considered to identify factors that distinctively influence the outcome variable (at $P < 0.05$). The parametric test assumptions (Normality, Linearity, and Multicollinearity) were satisfied. Statistical Package for Social Sciences (SPSS) version 27 was applied.

RESULTS

Background Characteristics of Participants

The participants' average age was 34. Gender-wise, they reported as Male ($n = 480, 81.8\%$) and Female ($n = 84, 14.3\%$). Regarding marital status, 382 (65.15%), 191 (32.5%), and 7 (1.2%) were married, unmarried, and divorced, in that order. However, 7 (1.2%) participants did not report their marital status.

Concerning universities, they were from Jimma University, 187 (31.9%), the University of Gondar, 200 (34.1%), and Hawassa University, 200 (34.1%). As far as their college/institute is concerned, they come from the CNS ($n = 176, 30\%$), the CSSH ($n = 158, 26.9\%$), and the IT ($n = 253,$

43.1%). Regarding the region, they were from Oromiyaa ($n = 166, 28.3\%$), Amhara ($n = 229, 39.0\%$), Tigray ($n = 16, 2.7\%$), SNNPR ($n = 72, 12.3\%$), and somewhere else (Others) ($n = 65, 11.1\%$). Closely related to this, by ethnicity, 143 (24.4%), 259 (44.1%), 18 (3.1%), and 114 (19.4%) marked that they are Oromo, Amhara, Tigre, and Others, respectively.

Regarding the academic rank of the participants, 16 (2.7%), 64 (10.9%), and 337 (57.4%) are Technical Assistants, Assistant Lecturers, and Lecturers; in that order, 140 (23.9%) and 26 (4.4%) are Assistant Professor and Associate Professor respectively. Participants' work experience also comes in different proportions. They taught from 1 to 5 years ($n = 198, 33.7\%$), 6 to 10 years ($n = 186, 31.7\%$), 11 to 15 years ($n = 124, 21.1\%$), 16 to 20 years ($n = 39, 6.6\%$), and above 20 years ($n = 29, 4.9\%$). Respondents belonged to different religions like Orthodox Christianity ($n = 341, 58.1\%$), Protestant Christianity ($n = 141, 24.0\%$), Islam ($n = 41, 7\%$), Catholic (17, 2.9%), and Other ($n = 28, 4.8\%$).

One-way ANOVA and T-test were conducted to determine which demographic characteristics influence the dependent variable. However, except for gender, none of them significantly related to the dependent variable. Hence, the analysis is purposefully omitted to save space, except for gender (Table 1).

An independent-sample T-test was conducted to detect if males and females differ in their intention to stay in FGUs (Table 1), considering the unequal variance

Table 1
Gender intention relationships

Group		n	M	SD	t(562)	p
Gender	Male	480	3.37	0.92	-2.495	.014
	Female	84	3.62	0.84		

Note. Correlation is significant at a .05 level

Source: Authors' work

assumption because of the sample size difference. The result indicates there were statistically significant mean differences between males ($\bar{x} = 3.37, SD = 0.92$) and females ($\bar{x} = 3.62, SD = 0.84$), $t(562) = -2.495, p = .014, CI = [-.45182, -.05205]$. Consequently, we can conclude that female academic staff intended to stay longer in FGUs than their male counterparts.

Table 2 presents the unique/strong variables that determine IS. To examine the change each predictor factor adds to the model, the predictor factors are entered into the regression model in descending direction (most strong to least strong), with respect to their correlation degree with IS (Zero order correlation) (Table 2). First, UI ($r = .573, p < .01$), second JS ($r = .542, p < .01$), third CS

Table 2
Summary of regression results by regressing IS in FGU on UI, JS, CS, and OCB

	Unstandardised coefficients		Standardised coefficients		95%CV for B	
	Beta	SE	B	t	LB	UB
Step 1						
Constant	.493	.176		2.807	.148	.838
UI	.849	.050	.573***	16.912	.750	.947
Step 2						
Constant	.201	.177		1.136	-.147	.549
UI	.562	.068	.379***	8.281	.428	.695
JS	.387	.064	.279***	6.085	.262	.511
Step 3						
Constant	.294	.182		1.612	-.064	.652
UI	.522	.070	.352***	7.430	.384	.660
JS	.314	.072	.226***	4.341	.172	.456
CS	.099	.047	.100*	2.081	.006	.192
Step 4						
Constant	-.467	.270		-1.730	-.997	.063
UI	.446	.072	.301***	6.171	.304	.588
JS	.266	.073	.192***	3.658	.123	.408
CS	.114	.047	.116*	2.427	.022	.206
OCB	.285	.075	.141***	3.782	.137	.433

Note. ***Correlation is significant at the .001; *Correlation is significant at .05, Durbin-Watson = 1.918

Source: Authors' work

($r = .482, p < .01$), last OCB ($r = .395, p < .01$) were entered into the regression model. The zero-order correlation also revealed that Multicollinearity is not a concern.

As depicted by the first model of the regression, around 32.85% of the difference in IS in FGUs can be significantly elucidated by perceived UI, $F(1, 585) = 286.014, p < .001$. Next, when JS was added into the second regression model, R^2 increased by 4% (from .328 to .368), $F(2, 584) = 170.325, p < .001$. On top of that, R^3 increased by .5 % (from .368 to .373), $F(3, 583) = 115.642, p < .001$, when CS was inserted into the third regression model. Finally, R^4 increased by 1.5 % (from .373 to .388) when the study added OCB to the last regression model, and the complete regression model stayed statistically significant, $F(4, 582) = 92.286, p < .001$. The four variables collectively explained 38.8% (Adjusted $R^2 = 38.4\%$) of the disparity on IS (Table 2). In social sciences, if a model explains 10% and above variation in the dependent variable, the model is acceptable (Cohen, 1988; Ozili, 2023).

In addition, as the same table shows, CS (Beta = 0.114, $p < .05$), JS (Beta = 0.266, $p < .001$), OCB (Beta = .285, $p < .001$), and perceived UI (Beta = .446, $p < .001$) could uniquely/individually explain variance in IS in a university. The strongest variable that explains the dependent variable is perceived UI. That is to say, when CS, JS, OCB, and perceived UI each increase by one unit, IS in FGUs increases by 0.114 (11.4%), 0.266 (26.6%), 0.285 (28.5%), and 0.446 (44.6%) units, in that order, when the effects of

the other three are held constant. We can conclude that perceived UI significantly contributes ($p < .001$) to predicting IS.

Though significant, the beta value for CS is the least significant predictor of IS, as contrasted to the rest of the determining variables revealed by this study. A separate analysis revealed that most study participants (46.2%) disagree with the idea that the top management of the FGUs communicate effectively and promptly to its employees about potentially threatening issues. Likewise, 47.2% of the study participants disagreed that management uses the employees' feedback for continual growth and development. Further, 33.7% of the respondents did not feel that they were communicated with dignity and respect by the management. More than 25% of the respondents in each item/case replied: "Undecided".

The analysis revealed that gender (being female) is linked to the intention to stay in FGUs based on demographic characteristics. Further, as the regression analysis detected, perceived internal UI, OCB, JS, and CS are found to be strong determinants of IS. Figure 1 presents the unique determinants of IS.

DISCUSSION

The study intended to examine variables that determine IS in FGUs. The current study identified only the female gender as an influencer of IS in FGUs. Our finding conflicts with Mulie and Simes' finding (2018), which confirmed that the turnover tendency of female academic staff is 1.492 times more likely than male respondents.

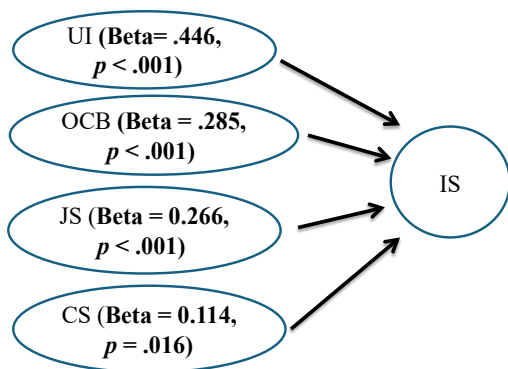


Figure 1. Determinants of intention to stay in FGUs
Source: Authors' work

Another conflicting finding reads: "...it has been found that female employees are more likely to leave their organisations when they perceive lack of career opportunities within their organisations" (Parker & Skitmore, 2003, as cited in Mulie & Simes, 2018, p. 20). According to some local studies (Dachew et al., 2016; Ferede, 2018; Woldekiros et al., 2022), the male gender was found to influence the TI.

In the current study, the reason why females intend to stay in FGUS could be that there is a better chance for females to win office positions, scholarships, and staff research (they are favoured with a research budget allocated only for female academic staff) as they are given priority, that is suitable working environment. For this demographic characteristic, the finding is consistent with the Social Exchange Theory, which states that, employees prefer to stay longer in the employing organisation when they receive reciprocating incentives. In the study of Mulie and Sime (2018), which reported high turnover intention for 70% of the respondents, the universities' working

environment was not conducive. The finding implies that FGUs should retain the female academic staff and create a conducive environment for male academic staff.

Our study hypothesised that work experience influences IS. However, the finding does not support our hypothesis. Our finding does not support the study of Mulie and Sime (2018) and Dilara et al. (2015), as cited by Demlie and Endris (2021), which confirmed that more experienced academic staff are less likely to turnover compared to less experienced ones. While Ferede et al. (2018) found an insignificant relationship between work experience and TI, Dachew et al. (2016) reported a significant relationship between the experience of working beyond ten years and TI. The setting and the focus of the study could be contributing factors. The findings of Ferede (2018) and Dachew et al. (2016) took place at the Institute of Health and focused on TI. The finding implies further investigation.

Perceived internal UI is the strongest variable that influences the IS in FGUs. The finding supports the researcher's alternative hypothesis, which speculated that perceived favourable internal image uniquely influences academic staff' IS, implying IS increases with an increase in perception of internal UI. Support for the finding comes from Chhabra and Sharma (2014), who said that positively perceived employer organisational image [external image] is the strongest influencer of the intention to apply. The finding of Turban and Greening (1997), as cited in Chhabra and Sharma (2014), also agrees with the current

finding; it reads: "One of the major factors that influence applicant to the organisation is its image as an employer" (p. 50). To some extent, support for this result (our finding) comes from Yunita et al. (2018), who found that perceived organisational support did not negatively influence TI. According to them, organisational support minimises stress and contributes to a favourable organisational image.

The finding is also incongruent with Prateek et al. (2011), as cited in Eketu and Ogbu (2015), who found that workers who get fair compensation and have a strong attachment to an organisation intend to stay. Compared to the second and third-generation universities, the FGUs are in a better position to support their academic staff with benefits such as housing, though not for all. For those who cannot get houses, universities allocate some amount of money for rent. However, some instructors could leave universities because of rises in house rent prices and goods. And this affects universities negatively.

An interesting finding of this study was that perceived internal UI is the strongest variable that explained the IS in FGUs, implying that perceived UI makes the most significant contribution ($p < .001$) to predicting IS. However, many studies (Ki & Hon, 2007) reported that perception of satisfaction was the best predictor of intention. Though perceived internal image and job satisfaction uniquely (individually) predict IS, as revealed in this study, the perception of internal UI explains IS 1.68 times more likely than JS does (44.6% vs.

26.6%). Hence, the role of internal image is critical in explaining IS. It implies that what contributes more to the intent to stay in FGUs is to be identified as an employee of FGUs (organisational identity, reputation) than job satisfaction. This finding is within the framework of SET, which posits that employees with a favourable attachment to an organisation intend to remain instead of looking for another job. Thus, we argue that if instructors perceive that FGUs are the best universities among existing public universities in Ethiopia, they will prefer to stay longer.

The study identified OCB as the next strongest variable influencing the IS in FGUs. Hence, the hypothesis "OCB uniquely influences academic staff' IS in FGUs" has been retained. The finding mostly agrees with Engeda et al. (2014), who found: "... high continuance commitment and high normative commitment were the significant predictors of intent to stay in the nursing profession" (p. 1). Support for the finding from this study also comes from Snape and Redman (2003), who found a positive relationship between affective commitment to occupation and "employees" intention to participate in professional activities and negatively related to occupational withdrawal intentions. Another support to the finding comes from Shanker (2018), who reported that OCB influenced employees' IS. Further support for our study comes from a PR study by Kang (2014), which reported that engagement, which is a manifestation of OCB, positively affects supportive behavioural intention toward

the organisation. A similar finding was emphasised by Brown et al. (2015). The finding implies that dedicated instructors with extra accomplishments are more likely to stay in FGUs. This could be attributed to their significant investment in the organisation, such as research projects, journals, innovations, and university demands, as well as their self-perception of being citizens of the FGUs. The finding also signifies that FGUs have dedicated and experienced high-calibre academic staff, which cannot be surprising as second-, third- and fourth-generation universities, where the turnover seems high, have young and less experienced academic staff. Our finding is within the framework of SET, which states that employees with OCB do not look for a new job elsewhere as they feel obliged to stay and contribute more to their organisation.

JS also strongly influenced IS in the FGUs. The finding supports our assumption that JS uniquely relates to the intention to stay in FGUs. Our finding is congruent with a public relations study (Kang, 2014), which found a significant relationship between satisfaction and supportive behavioural intention. This study's outcomes also support those findings from Thakur and Arora (2022) and Amani and Komba (2016), who reported that JS positively impacts IS. The outcome is also in accord with Serin et al. (2022), Otache and Inekwe (2021), and Guyo (2023), who found that JS interacted inversely with TI. Put another way, according to Otache and Inekwe's findings, their turnover intention decreases

when the job satisfaction of lecturers with PhD increases. According to the finding of Guyo (2023), "excessive job satisfaction has a lesser tendency in the direction of absenteeism and resignation" (p. 83) among faculty members in Ethiopian HEIs. A study conducted at Tishk International University in Iraq found a robust, reversed association between JS and TI (Serin et al., 2022).

Ferede et al.'s (2018) and George et al.'s (2013) findings also support the findings from the present research, saying that employees who had been contented with the "work nature" preferred to stay as compared to their counterparts who were dissatisfied. The result further agrees with Dachew et al. (2016), who noted that teachers who were contented in the "pay and benefit subscale of job satisfaction were nearly "less likely to leave their job" when compared with those who were not satisfied. The result is also in harmony with Engeda et al. (2014), who found: "satisfaction with autonomy and professional opportunities, scheduling and pay and benefits... were the significant predictors of intent to stay in the nursing profession" (p. 1). Our finding is in line with the framework of SET, which recommends reciprocating good performances.

However, it is important to note that IS in the FGUs does not necessarily mean that the instructors have been contented, especially when considering the country's current failing economy and instability; the staying could be attributed to a lack of alternative jobs. "The personnel who are committed to the organisation and believe that they cannot find any other job because

of bad general economy prefer to stay in the organisation” (Alshuaibi et al., 2020, p. 1511).

Finally, the study hypothesised that CS strongly influences academic staff's IS in FGUs. The finding has supported the hypothesis accordingly. Support for the finding comes from Mohamad (2008), who found that “overall communication satisfaction... reduce... turnover intention” (p.45). The findings from Ballard and Seibold (2006) and Kim and Lee (2014), as cited in Alshuaibi et al. (2020), support this finding, saying that effective communication may be related to low TI. The finding implies that instructors/researchers who feel satisfied with organisational communication or overall communication prefer staying in the FGUs rather than intending to leave. This implication is reinforced by Mutuku and Mathooko (2014), who say: “If employees feel that communication from management is effective, it can lead to feelings of job satisfaction, commitment to the organisation and increase trust in the workplace”(p. 30). It has been underscored in the literature that institutes that endorse impactful or worthy communication cannot only support their workers to effectively discharge their responsibilities, create an agreeable working atmosphere, and augment JS but also reduce the TI (Ballard & Seibold, 2006). The finding also supports the Social Intelligence model, which states that the ability of social interaction skills contributes to effective communication.

CONCLUSION

In conclusion, the study intended to identify whether academic staff's intention to stay in FGUS exists and, if so, what influences this intention. Accordingly, the study established that academic staff's intention to stay in FGUS exists. It found that JS, OCB, CS, and perceived internal UI collectively explained 38.8% of the variance on IS. Previous studies have not investigated the collective influence perceived internal UI, JS, CS, and OCB (variables emphasised in public relations and management studies) have on IS in FGUs; even if there are, only scanty public relations and management studies (Thakur & Arora, 2022) have studied individual or a few variables relationships with intention.

Further, studies investigating the relationship between internal UI perception and IS in FGUs lack (studies inclined to the external organisational image); public administration and public relations researchers who investigated factors (for example, job satisfaction, external image) that influence intention ignored the importance of the perception of internal university image, but this study filled that gap. Accordingly, exceptionally different from many studies that found JS as the strongest predictor of intention, this study identified perception of internal UI as the strongest factor to determine IS. The findings from this study have narrowed the research gap related to the determinants of IS in FGUs.

Documenting the linkages between intention to stay and communication

satisfaction, job satisfaction, organisational citizenship behaviour, and perception of internal university image is essential to minimise problems related to the turnover intention of experienced instructors in FGUs. This study provides important insights for the management and communication managers to understand and reach the due process of informed decision-making related to maximising academic staff's IS. Thus, the finding has contributed to the body of knowledge and practice by filling the research gap.

Implication of the Study

The findings can have theoretical and managerial implications. Based on our analysis and interpretation of the data, we have forwarded the following implications.

Theoretical Implications

Many studies (Ki & Hon, 2007; Thakur & Arora, 2022) found JS as the strongest predictor of dependent variables, including intention; however, this study identified perception of internal UI as the strongest factor to determine IS. The finding helps us to enhance our understanding of the role organisational image plays in studying intention and to consider it in extending the constructs of models applied in the study of intention. In another way, the finding implies the importance of developing or improving holistic model (s) that integrate the internal organisational image construct. Further, the hybrid model developed from this study explains above 10% of the variation (38.8%) in the dependent variable, implying that it

is a good alternative prediction model for studying IS in an organisational context. Also, it may provide insights into the importance of investigating more variables that can be considered in the study of intention in an organisational context. On top of that, the findings strengthen the appropriateness of applying the Social Exchange Theory and the Social Intelligence model in studies that examine intention.

Practical Implications

It is important to maximise the retention intention of senior and talented staff to achieve the organisational vision and mission in this competitive and complex environment. In this regard, the roles of managers/supervisors and communication managers are matchless.

The results of the current study offer practical implications so that they can discharge their responsibilities. The overall finding enables managers to develop strategies that maximise the level of intention to stay in FGUs. The profound implications of these findings for the management and communication managers should be obvious given their struggle to manage FGUs, continuously measure the impacts of the predictor variables identified by this study, and act accordingly beyond attempting to retain the academic staff. However, this may not mean that managers should approach these measures in a piecemeal/fragmented manner. Rather, they should follow a holistic intervention approach that integrates the four important predictors of IS. Understanding and addressing

holistically the factors that influence IS, with due priority, may help managers with the resources and communication managers to retain experienced academic staff.

Accordingly, building, auditing, and sustaining a positive internal image of FGUs should be the management's primary focus to enhance IS. Put differently, managers with resources can maximise instructors' IS in FGUs by working on/investing in resources and activities that build the internal image, most importantly. It may include offering high-quality education and scholarships, recruiting quality staff and management, providing the newest and most advanced technologies for its staff, treating fairly talented employees, considering comments given by the staff in the decision-making process, prevailing justice in the universities, and transforming the physical environment and organisational culture.

Moreover, the finding enables the managers to examine the extent to which they support, value, recognise, reward, encourage, and create a suitable working environment for dedicated instructors with extra accomplishments (OCB), as receiving support from the managers or supervisors could be a contributing factor in enhancing IS in FGUs. On top of that, the finding implies that FGU managers, in consultation with policymakers or the Ministry of Education, devise a better incentive system such as allocating houses, increasing payment for house rental, arranging transport services, and allocating enough research budget. When the management is supportive, the instructors reciprocally

offer loyalty, commitment, and long years of service.

For the communication managers, it helps them to examine to what extent they are discharging their responsibilities with regards to improving the internal image of FGUs; for example, the emphasis they give in creating enough awareness to the instructors about the accomplishments of the universities in teaching, research, and community services, what the university possesses, its vision and mission, the social responsibilities it discharges, the qualities of services it offers, whether they arrange effective communication training for the supervisors at different levels, and carry out research that enables the management to reach the due process of informed decision-making.

As these factors improve, instructors prefer to be identified as employees of FGUs and to stay in these universities instead of looking for another organisation or job. Hence, the FGU's management and communication managers should assess how much they can improve these factors and take the necessary measures to maximise instructors' stay in universities.

Limitations and Recommendations for Future Research

One of the drawbacks of this study is that its findings do not promise a causal association between the predictor variables and IS in the FGUs. Besides, the findings cannot be generalised to all higher education institutions in Ethiopia, as the data were collected only from three FGUs.

This study has only considered the four unique determinants of IS in FGUs. These four variables collectively explained only 38.8% of the variance on IS. It indicates that about 61.2% of the difference in IS can be explained by other factors, which calls the attention of future studies. This study used only a quantitative approach (cross-sectional correlational design) to examine the determinants of IS in FGUs, which implies the importance of a mixed-approach study. Hence, the researchers recommend further study using qualitative methods or a mixed approach with large sample size and casual experimental studies where possible. They also recommend similar studies on non-first-generation universities, private universities, or a combination of government and non-government universities, as well as on administrative staff. One of the functions of the Office of PRs is carrying out research to help the management reach informed decisions and achieve organisational vision.

ACKNOWLEDGEMENTS

The researchers would like to acknowledge Jimma University, Ethiopia for funding this staff research project. We are also grateful to the study participants who filled out the questionnaire, the data collectors, the reviewers and editors of this manuscript who rendered us insightful comments.

REFERENCES

- Abdien, M. K. (2019). Impact of communication satisfaction and work-life balance on employee turnover intention. *Journal of Tourism Theory and Research*, 5(2), 228-238. <https://doi.org/10.24288/jtr.526678>
- Albrecht, K. (2009). *Social intelligence: The new science of success*. Wiley. <https://www.wiley.com/en-us/Social+Intelligence%3A+The+New+Science+of+Success-p-9780470444344>
- Alemdar, U., Cömert, E., Ünlü, Y., & Solakumur, A. (2023). Examining the relationship between leadership orientations and social intelligence levels of sports manager candidates: The case of sakarya. *The Journal of Physical Education and Sport Sciences*, 21(2), 130-138. <https://doi.org/10.33689/spormetre.1232479>
- Alshuaibi, A. S., Akhtar, M. A., Bajajc, G., & Chatterjeed, R. (2020). Does organisational commitment mediate the relationship between communication satisfaction and employee turnover intention? *International Journal of Innovation, Creativity and Change*, 13(9), 1505-1527.
- Amani, J., & Komba, A. (2016). Relationship between job satisfaction and turnover intention among lecturers in Tanzanian public universities. *Annals of Modern Education*, 8(1), 1-15.
- Ballard, D. I., & Seibold, D. R. (2006). The experience of time at work: Relationship to communication load, job satisfaction, and interdepartmental communication. *Communication Studies*, 57(3), 317-340. <https://doi.org/10.1080/10510970600845974>
- Beram, S., Awang, M., Ismail, R., Ram, R. R., Noor, N., May, S. Y., Chee, F. Y. K., & Samichan, A. (2023). Professional leadership competencies for Malaysian educational middle leaders. *Pertanika Journal of Social Sciences & Humanities*, 31(4), 1363-1382. <https://doi.org/10.47836/pjssh.31.4.02>
- Brown, E. A., Thomas, N. J., & Bosselman, R. H. (2015). Are they leaving or staying: A qualitative analysis of turnover issues for generation Y hospitality employees with a hospitality education. *International Journal of Hospitality Management*, 46, 130-137. <https://doi.org/10.1016/j.ijhm.2015.01.011>

- Brown, T. J., Barry, T. E., Dacin, P. A., & Gunst, R. F. (2005). Spreading the word: Investigating antecedents of consumers' positive word-of-mouth intentions and behaviors in a retailing context. *Journal of the Academy of Marketing Science*, 33, 123-138. <https://doi.org/10.1177/0092070304268417>
- Bujang, M. A., Sa'at, N., & Sidik, T. M. I. T. A. B. (2017). Determination of minimum sample size requirement for multiple linear regression and analysis of covariance based on experimental and non-experimental studies. *Epidemiology Biostatistics and Public Health*, 14, Article 3. <https://doi.org/10.2427/12117>
- Chew, J. C. L. (2004). *The influence of human resource management practices on the retention of core employees of Australian organizations: an empirical study* [Doctoral dissertation, Murdoch University]. Murdoch University Research Portal. <https://researchportal.murdoch.edu.au/esploro/outputs/doctoral/The-influence-of-human-resource-management/991005543047007891>
- Chhabra, N. L., & Sharma, S. (2014). Employer branding: Strategy for improving employer attractiveness. *International Journal of Organizational Analysis*, 22(1), 48-60. <https://doi.org/10.1108/IJOA-09-2011-0513>
- Cohen, J. (1988). *Statistical power analysis for the behavioral sciences* (2nd ed). Lawrence Erlbaum Associates. <https://www.utstat.toronto.edu/brunner/oldclass/378f16/readings/CohenPower.pdf>
- Dachew, B. A., Birhanu, A. M., Biftu, B. B., Tiruneh, B. T., Anlay, D. Z., & Engda, E. H. (2016). High proportion of intention to leave among academic staffs of the University of Gondar, Northwest Ethiopia: A cross-sectional institution-based study. *International Journal of Innovations in Medical Education and Research*, 2(1), 1-5.
- Dalgıç, A., & Akgündüz, Y. (2019). Impact of social and economic exchanges on hotel employees' job dedication and turnover intention. *Journal of Tourism Theory and Research*, 5(2), 75-85. <https://doi.org/10.24288/jtr.523910>
- Dalimunthe, I., Absah, Y., Raha, S., & Salim, S. R. A. (2017). The effect of interpersonal relationships and role ambiguity on job satisfaction and its impact toward employees' intention to leave in event organizer services provider in Medan. *Advances in Economics, Business and Management Research (AEBMR)*, 46, 346-352.
- Demlie, W., & Endris, H. (2021). The effect of work-related attitudes on turnover intention in public higher education institution: The case of Arba Minch University, Ethiopia. *Advanced Journal of Social Science*, 8(1), 231-245. <https://doi.org/10.21467/ajss.8.1.231-245>
- Downs, C. W., & Hazen, M. D. (1977). A factor analytic study of communication satisfaction. *Journal of Business Communication*, 14(3), 63-73. <https://doi.org/10.1177/002194367701400306>
- Eketu, C. A., & Ogbu, E. F. (2015). Social intelligence and employee intention to stay. *International Journal of Novel Research in Marketing Management and Economics*, 2(1), 27-34. <https://doi.org/10.2139/ssrn.3480576>
- Engeda, E. H., Birhanu, A. M., & Alene, K. A. (2014). Intent to stay in the nursing profession and associated factors among nurses working in Amhara Regional State Referral Hospitals, Ethiopia. *BMC Nursing*, 13(24), 1-8. <https://doi.org/10.1186/1472-6955-13-24>
- Fazal, A., Abid, G., Afridi, J. R., & Elahi, N. S. (2021). Social media communication and behavioral intention of customers in hospitality industry: The mediating role of customer satisfaction. *International Journal of Entrepreneurship*, 25(2), 1-14.
- Ferede, A., Kibret, G. D., Million, Y., Simeneh, M. M., Belay, Y. A., & Hailemariam, D. (2018). Magnitude of turnover intention and associated factors among health professionals

- working in public health institutions of North Shoa Zone, Amhara region, Ethiopia. *BioMed Research International*, 2018(1), 1-9. <https://doi.org/10.1155/2018/3165379>
- Fetene, G. T. (2009). *Self-reported sexual experiences, sexual conduct and safer-sex practices of Ethiopian undergraduate male and female students in the context of HIV/AIDS pandemic* [Doctoral dissertation, University of New York]. Research Gate. <https://www.researchgate.net/publication/343813259>
- George, G., Atujuna, M., & Gow, J. (2013). Migration of South African health workers: The extent to which financial considerations influence internal flows and external movements. *BMC Health Services Research*, 13, Article 297. <https://doi.org/10.1186/1472-6963-13-297>
- Gülнар, B. (2007). *The relationship between communication satisfactions and job satisfaction: A survey among Selcuk University research assistants*. <https://www.researchgate.net/publication/228462599>
- Guyo, A. T. (2023). The relationship between job satisfaction and turnover intentions among faculty members in Ethiopian higher education institutions. *Indonesian Psychological Research*, 5(2), 78-85. <https://doi.org/10.29080/ipr.v5i2.954>
- Hagedorn, L. S. (2002). Conceptualizing faculty job satisfaction: Components, theories, and outcomes. *New Directions for Institutional Research*, 2000(105), 5-20. <https://doi.org/10.1002/ir.10501>
- Hailu, A., Mariam, D. H., Fekade, D., Derbew, M., & Mekasha, A. (2013). Turn-over rate of academic faculty at the College of Health Sciences, Addis Ababa University: A 20-year analysis (1991 to 2011). *Human Resources for Health*, 11(61), 1-6. <https://doi.org/10.1186/1478-4491-11-61>
- Hon, L. C., & Grunig, J. E. (1999). *Guidelines for measuring relationships in public relations*. Institution for Public Relations. https://www.instituteforpr.org/wp-content/uploads/Guidelines_Measuring_Relationships.pdf
- Hong, S. Y., & Yang, S. U. (2009). Effects of reputation, relational satisfaction, and customer-company identification on positive word-of-mouth (WOM) intentions. *Journal of Public Relations Research*, 21(4), 381-403. <https://doi.org/10.1080/10627260902966433>
- Kakar, A. S., Mansor, N. N. A., Saufi, R. A., & Singh, H. (2019). Work-life balance practices and turnover intention: The mediating role of person-organization fit. *International Journal of Advanced and Applied Sciences*, 6(9), 76-84. <https://doi.org/10.21833/ijaas.2019.09.012>
- Kang, M. (2014). Understanding public engagement: Conceptualizing and measuring its influence on supportive behavioral intentions. *Journal of Public Relations Research*, 26(5), 399-416. <https://doi.org/10.1080/1062726X.2014.956107>
- Kebede, A. G., & Fikire, A. H. (2022). Demographic and job satisfaction variables influencing academic staffs' turnover intention in Debre Berhan University, Ethiopia. *Cogent Business & Management*, 9(1), 1-11. <https://doi.org/10.1080/23311975.2022.2105038>
- Ki, E. J., & Hon, L. C. (2007). Testing the linkages among the organization-Public relationship and attitude and behavioral intentions. *Journal of Public Relations Research*, 19(1), 1-23. <https://doi.org/10.1080/10627260709336593>
- Koch, D. M. (1997). *Social intelligence, problem construction, and leadership: The trait approach revisited* [Master's thesis, University of Nebraska]. Digital Commons. <https://digitalcommons.unomaha.edu/cgi/viewcontent.cgi?article=1261&context=studentwork>

- Mendis, M. V. S. (2017). The impact of reward system on employee turnover intention: A Study on logistics industry of Sri Lanka. *International Journal of Scientific & Technology Research*, 6(9), 67-72.
- Mohamad, S. F. (2008). *Effects of communication on turnover intention: A case of hotel employees in Malaysia* [Master's Thesis, Iowa State University]. Digital Repository @ Iowa State University. <https://www.researchgate.net/publication/254611336>
- Mulie, H., & Sime, G. (2018). Determinants of turnover intention of employees among the academic staffs (The case of some selected Ethiopian universities). *Journal of Economics and Sustainable Development*, 9(15), 18-29.
- Mustapha, N., Ahmad, A., Uli, J., & Idris, K. (2010). Job characteristics as antecedents of intention to stay and mediating effects of work family facilitation and family satisfaction among single mothers in Malaysia. *International Journal of Business and Social Science*, 1(3), 59-74.
- Mutuku, C. K., & Mathooko, P. (2014). Effects of organizational communication on employee motivation: A case study of Nokia Siemens Networks Kenya. *International Academic Journal of Information Sciences and Project Management*, 1(3), 28-62.
- Nadiri, H., & Tanova, C. (2010). An investigation of the role of justice in turnover intentions, job satisfaction, and organizational citizenship behavior in hospitality industry. *International Journal of Hospitality Management*, 29(1), 33-41. <https://doi.org/10.1016/j.ijhm.2009.05.001>
- Organ, D. W., & Konovsky, M. (1989). Cognitive versus affective determinants of organizational citizenship behavior. *Journal of Applied Psychology*, 74(1), 157-164. <https://doi.org/10.1037/0021-9010.74.1.157>
- Otache, I., & Inekwe, E. O. I. (2021). The relationship between job satisfaction, turnover intentions, and performance of Nigerian polytechnic lecturers with doctorate degrees. *Journal of Applied Research in Higher Education*, 14(2), 762-783. <https://doi.org/10.1108/JARHE-10-2020-0360>
- Ozili, P. K. (2023). The acceptable R-square in empirical modelling for social science research. In C. Saliya (Ed.), *Social research methodology and publishing results: A guide to non-native English speakers* (pp. 134-143). IGI Global. <https://doi.org/10.4018/978-1-6684-6859-3.ch009>
- Rho, E., Yun, T., & Lee, K. (2015). Does organizational image matter? Image, identification, and employee behaviors in public and non-profit organizations. *Public Administration Review*, 75(3), 421-431. <https://doi.org/10.1111/puar.12338>
- Sadia, A., Salleh, B. M., Kadir, Z. A., & Sanif, S. (2017). Communication satisfaction among academic Staff in Malaysian public universities. *International Review of Management and Marketing*, 7(3), 171-178.
- Serin, H., Qasim, Z. R., & Mansoor, M. M. (2022). Impact of job satisfaction on turnover intention among academic personnel of private higher education sector in Iraq: A case of Tishk International University. *International Journal of Research in Business and Social Science*, 11(2), 402-413. <https://doi.org/10.20525/ijrbs.v11i2.1641>
- Shanker, M. (2018). Organizational citizenship behavior in relation to employees' intention to stay in Indian organizations. *Business Process Management Journal*, 24(6), 1355-1366. <https://doi.org/10.1108/BPMJ-02-2018-0048>
- Snape, E., & Redman, T. (2003). An evaluation of a three-component model of occupational commitment: dimensionality and consequences among United Kingdom human resource management specialists. *Journal of Applied Psychology*, 88(152), 152-159. <https://doi.org/10.1037/0021-9010.88.1.152>

- Somers, M. J. (2009). The combined influence of affective, continuance and normative commitment on employee withdrawal. *Journal of Vocational Behavior*, 74(1), 75–81. <https://doi.org/10.1016/j.jvb.2008.10.006>
- Thakur, P., & Arora. R. (2022). Exploring the relationship between satisfaction and intention to stay among Millennial employees: The moderating role of managerial support. *International Journal of Human Capital and Information Technology Professionals*, 13(1), 1-17. <https://doi.org/10.4018/IJHCITP.293229>
- Vermeir, P., Blot, S., Degroote, S., Vandijck, D., Mariman, A., Vanacker, T. Peleman., R., Verhaeghe, R., & Vogelaers, D. (2018). Communication satisfaction and job satisfaction among critical care nurses and their impact on burnout and intention to leave: A questionnaire study. *Intensive and Critical Care Nursing*, 48, 21-27. <https://doi.org/10.1016/j.iccn.2018.07.001>
- Wang, L., Tao, H., Ellenbecker, C. H., & Liu, X. (2012). Job satisfaction, occupational commitment and intent to stay among Chinese nurses: A cross-sectional questionnaire survey. *Journal of Advanced Nursing*, 68(3), 539–549. <https://doi.org/10.1111/j.1365-2648.2011.05755.x>
- Woldekiros, A. N, Getye, E., & Abdo, Z. A. (2022). Magnitude of job satisfaction and intention to leave their present job among nurses in selected federal hospitals in Addis Ababa, Ethiopia. *PLoS ONE* 17(6), Article e0269540. <https://doi.org/10.1371/journal.pone.0269540>
- Woltmann, E. M., Whitley, R., Mchugo, G. J., Brunette, M., Torrey, W. C., Coots, L. Lynde, D., & Drake, R. E. (2008). The role of staff turnover in the implementation of evidence-based practices in mental health care. *Psychiatric Services*, 59(7), 732–737. <https://doi.org/10.1176/ps.2008.59.7.732>
- Yunita, I., Prasetyo, A. P., Dharmoputra, S., & Sa'adah, S. (2018). Employee turnover intention: The role of perceived organizational support and stress. *Advances in Economics, Business and Management Research*, 65, 451-457. <https://doi.org/10.2991/ICEBEF-18.2019.98>

The Effects of SMIs' Source Credibility on Consumers' Intention to Purchase Local Cosmetic Products Through Attitude Towards Advertisements

Bernadine Adel Sitorus¹, Sylvia Nabila Azwa Ambad^{1,2*} and Cynthia Robert Dawayan¹

¹*Faculty of Business and Management, Universiti Teknologi MARA Cawangan Sabah, 88997 Kampus Kota Kinabalu, Sabah, Malaysia*

²*Arshad Ayub Graduate Business School, Universiti Teknologi MARA, 40000 Shah Alam, Selangor, Malaysia*

ABSTRACT

The global influencer marketing industry, valued at USD 21.1 billion in 2023, has gained immense relevance for businesses, with Social Media Influencers (SMI) playing a pivotal role in marketing activities. In the competitive Malaysian local cosmetic industry, leveraging SMIs is particularly promising, given their substantial influence on consumer buying behaviour due to their credibility traits. By extending Ohanian's (year) seminal 3-dimensional source credibility model, this research employs a 4-dimensional framework tailored to the context of SMIs. Through the purposive sampling technique, this study managed to collect 164 responses via self-administered questionnaires among young adults in the age range of 18–34 years old. Data were analysed using the structural equation modelling-partial least squares (PLS-SEM) method. Findings from this research suggest that SMIs' trustworthiness and attractiveness affect consumers' purchase intention through the mediating effects of attitude towards advertisements, while expertise and similarity do not. Essentially, the findings from this study contribute to the existing literature on SMIs' credibility traits, offering valuable insights for local cosmetic industry stakeholders in their selection for product endorsements.

Keywords: Attitude toward advertising, influencer marketing, purchase intention, social media influencer, source credibility model

ARTICLE INFO

Article history:

Received: 23 September 2023

Accepted: 14 August 2024

Published: 02 December 2024

DOI: <https://doi.org/10.47836/pjssh.32.4.15>

E-mail addresses:

adelsitorus@gmail.com (Bernadine Adel Sitorus)

nabila1793@uitm.edu.my (Sylvia Nabila Azwa Ambad)

cynthia@uitm.edu.my (Cynthia Robert Dawayan)

*Corresponding author

INTRODUCTION

The proliferation of the Internet has significantly affected the power dynamic between businesses and consumers (Evans, 2019). Thanks to the easy and quick sharing

of content in various forms on social media platforms, consumers are now able to share their opinions and feedback on various products and services, effectively transforming them into potential brand advocates (Vrontis et al., 2021). This eventually led to the emergence of Social Media Influencers (SMIs), one of the distinguished phenomena under the light of influencer marketing.

According to Geysler (2023), the market for influencer marketing was projected to reach USD 21.1 billion in 2023. Consequently, many companies have shown a growing inclination towards adopting SMIs as a marketing tool to reach and interact with target markets (Masuda et al., 2022). A survey conducted by Influencer Marketing Hub also reported that more than 80% of the respondents intended to allocate a budget to influencer marketing in 2023, with 67% planning to increase their influencer marketing spend. In addition, academic research also showed support for this trend, with studies demonstrating the significant impact of SMIs on media coverage, consumer purchase persuasion (Kurdi et al., 2022), and advertisement effectiveness (Schouten et al., 2020).

SMIs hold significant relevance in today's marketing landscape primarily due to their propensity to demonstrate authenticity, a trait highly sought after by consumers. Their direct engagement with audiences via postings and comments further enhances their appeal (Fertik, 2020). SMIs are also viewed as trustworthy sources, making them reliable for delivering

credible messages (Suciu, 2020). It is driven by the fact that many SMIs are portrayed as ordinary individuals, making their promotional content seem more authentic and relatable (Duffy, 2020). Recognising these advantages, many brands and businesses now incorporate SMIs into their marketing strategies (Vrontis et al., 2021).

Nevertheless, despite the apparent evidence of SMIs' capabilities to influence consumers' purchasing decisions, there are some issues and concerns regarding this matter. For instance, consumers have become increasingly sceptical about SMIs' reliability in promoting products, mainly due to the perception of dishonesty and inauthenticity (Suciu, 2020). A similar issue has also been addressed by Yuan and Lou (2020), who implied that some may still be wary of influencers who advocate products or services they do not actually use or believe in. Thus, it is imperative for businesses to carefully select SMI endorsers who possess a high level of credibility so they can effectively convey their message to a targeted audience.

For influencers and content marketing messages to be effective, social media influencers should possess credibility, which is the most crucial characteristic. For instance, a survey by IZEA (2017) revealed that the credibility or believability of the source/writer was rated the highest, with 69% as the most important attribute. Similarly, Balaban and Mustăţea (2019) also emphasised the importance of source credibility as a key attribute for SMIs. In

addition, Chekima et al. (2020) suggest that using credible SMIs can be powerful, especially for consumers who struggle to comprehend a product.

However, despite the apparent evidence of SMIs' capabilities in influencing consumers' purchasing decisions, studies on characteristics of SMIs that contribute to the effectiveness of promotional messages are still relatively scarce (Duh & Thabethe, 2021). In the same vein, Taillon et al. (2020) asserted that there has been minimal research on how SMIs connect with and affect their followers, indicating the need for further empirical validation and theoretical knowledge in this field of research. Furthermore, there is a significant research gap on the dynamics of SMIs on TikTok despite its burgeoning prominence within the field of influencer marketing. Previous scholarly investigations have predominantly focused on platforms like YouTube, Instagram, and Facebook, thereby overlooking TikTok's distinctive features. Moreover, the scholarly discourse on source credibility in influencer marketing has predominantly revolved around celebrity endorsements, thereby neglecting the unique credibility attributes inherent to SMIs.

The research on cosmetic purchase intentions in Malaysia has mostly focused on types of cosmetic products such as green, halal, and Korean cosmetics. However, studies focusing on local cosmetic products are notably lacking. Studies on SMIs' credibility predominantly use Ohanian's (1990) 3-dimensional Source Credibility Model (trustworthiness, expertise,

attractiveness) (e.g., AlFarraj et al., 2021; Koay et al., 2022; Kumar et al., 2023; Wiedmann & von Mettenheim, 2020). While this model has strong empirical support, it was originally developed for celebrity endorsers and thus may not fully capture the unique dynamics of SMIs. Addressing this, Munnukka et al. (2016) recommended incorporating "similarity" into the model, given that SMIs are often perceived as ordinary individuals who share similar demographic characteristics with their followers (Duffy, 2020). Despite its relevance, this characteristic has been understudied. Moreover, previous research indicates the potential intermediary variables in the relationship between source credibility and purchase intention. In line with Vrontis et al.'s (2021) recommendations to include mediating or moderating variables, this study introduces attitude towards advertisements as a mediating variable.

Hence, by drawing on Source Credibility Theory, this study aims to narrow the gaps mentioned by explaining consumers' local cosmetic purchase intention through the credibility characteristics of SMIs. The local cosmetic industry is chosen because it is known to be profitable and lucrative in Malaysia. SMIs are acknowledged to be especially effective in endorsing beauty and personal care products (Statista, 2023). In particular, this study examines the effects of source credibility dimensions, namely, Trustworthiness, Expertise, Attractiveness, and Similarity. This study will also test the mediating effect of attitude towards advertisement.

LITERATURE REVIEW

Social Media Influencers (SMI)

Social media influencers (SMIs) have gained popularity by being active on various social media platforms and attracting many followers (Khamis et al., 2017; Yuan & Lou, 2020). They have established their personal brand, often by sharing content about fashion, beauty, travel, and other matters that stimulate inspiration and aspiration (Khamis et al., 2017). SMIs are known to be able to exert influence over their followers (Ki et al., 2020), essentially making them a preferred choice in the current marketing landscape.

The popularity of SMIs has been growing exponentially. They are now a familiar presence among consumers, particularly in Malaysia. A recent statistic from Statista (2023a) revealed that 79% of Malaysian respondents are aware of SMIs and follow them, with the majority admitting having made purchases because an influencer has endorsed it. The effectiveness of SMIs' promotional messages was evident, and it is especially prominent when beauty or personal care products are being promoted (Statista, 2023b). While SMIs are acknowledged to be a powerful marketing tool, there is still a lack of understanding of how SMIs initially acquire their persuasive power and be able to partner with brands and create branded contents that include endorsements (Ki et al., 2020).

To date, TikTok is known to be one of the biggest platforms for influencer marketing. Although it is considered relatively smaller compared to more established platforms

like Facebook, its prospects are highly promising (Haenlein et al., 2020). As a start, TikTok outshines other platforms in terms of engagement rates (Green et al., 2020). Additionally, a WARC (2021) survey reported that 80% of TikTok users claimed the platform had helped them get ideas about brands and products they had never thought of before. Furthermore, a survey conducted by Adweek in 2021 revealed that 49% of users admit having purchased a product after seeing it advertised, promoted, or reviewed at least once on TikTok (Lundstrom, 2021). Following this, TikTok has consolidated its position as a dominant platform for influencer marketing due to its exponential growth, outstanding engagement rates and impact on consumers' decision-making.

Source Credibility

The Source Credibility Theory introduced by Hovland et al. (1953) asserted that the persuasiveness of a message is higher when the source presents itself as credible (Umeogu, 2012). In this context, credibility refers to the believability of the information provided and its source (Ayeh et al., 2013). This facet is important in determining the message's authenticity and validity (Hsieh & Li, 2020). Extant studies have been undertaken to put this notion to the test, and most of them confirmed that source credibility significantly contributes to message believability, which ultimately elevates the message's persuasiveness (Pornpitakpan, 2004).

Marketing and advertising practitioners abide by the same notion, which suggests

that a message's persuasiveness depends on the communicator's character (Ohanian, 1990). More specifically, under the light of influencer marketing, studies indicated that the credibility characteristics of an influencer have the capabilities to influence a person's beliefs, opinions, attitudes, and behaviour (Hassan et al., 2021; Sokolova & Kefi, 2020; Weismueller et al., 2020). Fundamentally, when consumers believe that a source has greater credibility than other sources, they will be more receptive towards the messages coming from the source and more likely to be persuaded.

The Source Credibility Model is commonly used as an enhancer tool to measure the credibility of endorsers, which comprises trustworthiness, expertise, and attractiveness. Initially developed by Hovland and Weiss (1951) and then segregated by Ohanian (1990), researchers widely used this model to examine the effects of the source credibility of celebrity endorsers on consumers' attitudes. Earlier studies demonstrated that trustworthiness, expertise, and attractiveness significantly affected the attitude towards advertising, attitude towards brands, and intention to purchase (Amos et al., 2008; Halder et al., 2021).

As social media thrives, most companies transitioned towards using SMIs to promote products (Chekima et al., 2020; Schouten et al., 2020). This is also supplemented by the fact that the dependency on social media in communicating is increasing while it proceeds to shift how consumers interact with brands (Koay et al., 2021). The traditional influence of trustworthiness,

expertise, and attractiveness has increasingly been examined in the context of SMIs (Weismueller et al., 2020).

In light of influencer endorsement, Munnukka et al. (2016) developed a 4-dimensional Source Credibility Model consisting of trustworthiness, expertise, attractiveness and one new dimension, similarity. The inclusion of similarity is proposed as a higher degree of similarity encourages a more positive attitude towards the advertised brand, hence greater advertising effectiveness (Munnukka et al., 2016).

Trustworthiness

Trustworthiness can be referred to as the degree of confidence, acceptance, and trust of recipients in the honesty, integrity, and reliability of information or advice provided (Ismagilova et al., 2020; Munnukka et al., 2016; Ohanian, 1990;). A source is considered trustworthy when the information and recommendations are valid, honest, and explicit (Hovland & Weiss, 1951). People are usually sceptical of information coming from untrustworthy sources (Hovland & Weiss, 1951), whereas information from trustworthy sources is frequently accepted with no questions (Sparkman Jr & Locander, 1980). Earlier marketing research conducted in the realm of celebrity endorsers had consistently found that trustworthiness positively affects advertising effectiveness (e.g., Amos et al., 2008; Till & Shimp, 1998), signifying the foundational significance of trustworthiness in advertising efficacy.

Under the light of influencer marketing, trustworthiness towards SMIs was dubbed crucial in making internet influencers more influential (Jin et al., 2019). When consumers trust an influencer, they are more likely to like the brands the influencer endorses (Balaban & Mustăţea, 2019; Weidmann & von Mettenheim, 2020). Furthermore, when influencers are perceived as trustworthy, consumers will likely trust their recommendations to be genuine and reliable (Lou & Yuan, 2019). Consequently, this led to a positive attitude towards the brand or product being promoted by the influencer (Ki et al., 2020; Lou & Yuan, 2019; Shoukat et al., 2023). Recent studies empirically supported this notion (e.g., Chekima et al., 2020; Janssen et al., 2022). These studies particularly implied that advertisement content from trustworthy influencers is more likely to be viewed positively. As such, in this study, we propose that when TikTok influencers are perceived as trustworthy, their followers will have a favourable attitude toward the content they share on TikTok. Based on these discussions, we propose the following:

H1: TikTok Influencers' trustworthiness positively affects consumers' attitudes towards the advertisement.

Expertise

Expertise can be described as the level of knowledge, abilities, and qualifications of an endorser, which reflects their depth of expertise and perceived ability to effectively market a product (Van der Walddt et al.,

2009). One is considered an expert when one possesses extensive knowledge, practical experience, excellent problem-solving skills, specialised expertise in a specific domain, is perceived as knowledgeable and has undergone appropriate training and experience (Ismagilova et al., 2020; Muda & Hamzah, 2020; Verma & Dewani, 2020; Weidmann & van Mettenheim, 2020). Most previous studies in commercial settings suggest that a source with a high level of expertise leads to a positive attitude towards the endorser and advertisement, as well as greater purchase intention (Pornpitakpan, 2004). People generally perceive an expert as someone highly qualified and more likely to make an accurate and valid assessment. For this reason, consumers tend to accept the content or recommendations offered by influencers perceived as experts in the area of interest (Chetioui et al., 2020). Previous research has confirmed that people often rely on source expertise when forming attitudes (Zhu et al., 2020). The notion was empirically tested and proven to be significant in studies involving several types of influencers, such as fashion influencers on social media (e.g., Chetioui et al., 2020), Youtubers (e.g., Miranda et al., 2021) and vloggers (e.g., Choi & Lee, 2019). Thus, it is reasonable to assume that TikTok influencers who demonstrate their expertise in their TikTok videos are more likely to garner positive attitudes from viewers. Building on the existing literature, we propose the following hypothesis:

H2: TikTok Influencers' expertise positively affects consumers' attitudes toward advertisements.

Attractiveness

Physical appearance is vital and hardly goes unnoticed (Muda & Hamzah, 2021). Attractiveness is a part of perceived credibility sources and has been considered a critical success factor for influencers (Balaban & Mustăţea, 2019). As one of the dimensions of source credibility, attractiveness determines whether a source is good-looking (Weidmann & von Mettenheim, 2020). Using physically attractive endorsers will positively influence attitudes toward advertisements as people associate positive qualities like success, health, social status, likeability, and trustworthiness with attractive individuals (Schouten et al., 2020). Additionally, the level of message persuasiveness is higher when conveyed by attractive influencers (Wiedmann & von Mettenheim, 2020). Koay et al. (2021) also suggested that consumers' intention to purchase is highly influenced by the attractiveness factor, especially when it comes to SMIs with visually appealing appearance, as it garners more public attention and fosters extensive publicity. This implied that an endorser's physical attractiveness is crucial in enhancing advertising effectiveness.

Previous research found that endorsers' attractiveness positively influences advertising credibility when the product endorsed is related to physical appearance (Munnukka et al., 2016). Furthermore,

beauty and attractiveness are significant factors when selecting models, endorsers, and spokespersons, especially in the cosmetic industry (Muda & Hamzah, 2021). Schouten et al. (2020) concluded that the effectiveness of advertisements for fitness and beauty products was much more significant when the endorser was psychically attractive and perceived as a good fit for the product endorsed. In essence, this implies that using attractive influencers to promote products that enhance physical appearance (i.e., cosmetic products) may yield favourable attitudes from consumers; hence, we propose the following hypothesis:

H3: TikTok Influencers' expertise positively affects consumers' attitudes toward the advertisement.

Similarity

Similarity, also known as homophily, refers to the perceived resemblance between the sender and receiver, including shared characteristics, such as opinions, education, or social standing (Ismagilova et al., 2020; Kiecker & Cowles, 2002; Ladhari et al., 2020; Martensen et al., 2018). It plays an important role in source credibility because communicators perceived as similar to their audiences are more likely to be viewed as credible and persuasive than those perceived as dissimilar (Morimoto & La Ferle, 2008; Simons et al., 1970;). In addition, Hoffner and Buchanan (2005) postulated that people are more likely to feel similar to characters who share similar demographic characteristics, as well as deeper, less obvious personal

traits, such as personality, behaviour, or life experience, essentially stimulating the desire to become more like the character in other ways. Notably, it became one of the most critical traits in marketing efforts, as it can generate favourable attitudes toward advertisements or brands (Chang, 2011). It has been affirmed and verified by recent studies in influencer marketing (e.g., Lou & Yuan, 2019; Balaban & Mustăţea, 2019; Suwandee et al., 2019; Muda & Hamzah, 2021). Ultimately, these studies suggested that people perceived as similar tend to be considered credible sources of information. Thus, information or suggestions coming from these individuals are more likely to be accepted. Based on the above suggestions, we propose the following:

H4: TikTok Influencers' perceived similarity positively affects consumers' attitudes toward the advertisement.

The Mediating Role of Attitude Towards Advertisement

Attitude is a person's favourable or unfavourable reaction towards an object, person, institution, or any aspect that can be discriminated against in a person's world (Ajzen, 1989). "People who hold positive attitudes should engage in behaviours that approach, support or enhance the attitude object, and people who hold negative attitude should engage in behaviours that avoid, oppose, or hinder the object" (Eagly & Chaiken, 1993, p.155). Meanwhile, attitude towards an advertisement refers to a person's predisposition to respond

favourably or unfavourably to a certain advertisement under a specific exposure setting (McKenzie et al., 1986). It captures the thoughts and feelings of consumers towards a certain advertisement (Kirmani & Campbell, 2009).

Given its predictive relevance to consumers' behaviours, marketers have paid close attention to the concept of attitude towards advertisement (Gaber et al., 2019), leading to its widespread usage as an indicator in measuring advertising performance (Oumlil & Balloun, 2019). Most studies on influencer marketing in different settings have consistently implied that credibility traits, such as trustworthiness, expertise, attractiveness, and similarity, significantly influenced consumers' attitudes, specifically towards SMIs, contents shared online, and the endorsed products or brands (Lou & Yuan, 2019; Muda & Hamzah, 2021; Mathur et al., 2021). Furthermore, attitude was also acknowledged as a central mediator of behaviour and preceding behavioural intention, with a growing body of literature supporting its significance as a driver of purchasing intention via established theories, such as TRA, TPB, and TAM (Ing & Ming, 2018; Muda & Hamzah (2021). It suggests that credibility characteristics influence consumers' attitudes and play a role in determining their intent to purchase (Lim et al., 2017; Nafees et al., 2021). Therefore, based on these discussions, we propose these hypotheses:

H5: Consumer attitude towards advertisement mediates the relationship between TikTok influencers' trustworthiness and purchase intention.

H6: Consumer attitude towards advertisement mediates the relationship between TikTok influencers' expertise and purchase intention.

H7: Consumer attitude towards advertisement mediates the relationship between TikTok influencers' expertise and purchase intention.

H8: Consumer attitude towards advertisement mediates the relationship between TikTok influencers' perceived similarity and purchase intention.

Attitude Towards Advertisement and Purchase Intention

According to Kim and Ko (2012), purchase intention is an attitudinal determinant in predicting customers' future contributions to a brand. It is important to study consumers' purchase intention as it is key in predicting consumers' actions (Chakraborty, 2019). This study assesses the consumers' intention to purchase local cosmetic products in Malaysia. The growing awareness of the importance of physical appearance in many life outcomes has increased societal emphasis on personal appearance. This has led to increased demand for cosmetics, which have been found to enhance and improve physical attractiveness (Mohammed et al., 2021). A similar circumstance is also apparent in Malaysia, where the cosmetic industry thrives from year to year. A group of

society known as 'beauty enthusiasts often favour brands like Maybelline, L'Oreal, or Estee Lauder. On the other hand, younger generations tend to favour beauty products originating from South Korea (Badarudin, 2018). Along these lines, none mentioned local Malaysian cosmetic products, calling for a study of consumers' intention to purchase local cosmetic products.

Muda and Hamzah (2021) stressed the importance of understanding consumers' attitudes as they influence behavioural intentions such as purchase intention. Besides, an attitude was propounded as a definite antecedent of behavioural intentions (Ing & Ming, 2018). Accordingly, attitudes towards a particular thing should lead to relevant behaviour towards the same thing (Brown & Stayman, 1992). It aligns with Ajzen's (1991) belief that a more favourable attitude towards a particular behaviour will lead to a stronger intention to perform the behaviour under consideration. Notably, this proposition was validated and confirmed by several studies in different contexts, such as consumers' purchase intention in restaurants (Najar & Rather, 2021), purchase intention towards bubble tea (Kamalul Ariffin et al., 2021), and online purchase intention (Mathur et al., 2021). Hence, based on the above discussion, we postulate the following:

H9: Consumer attitude toward advertisements positively influences purchase intention.

Figure 1 presents the conceptual framework and the corresponding hypotheses based on the literature discussed.

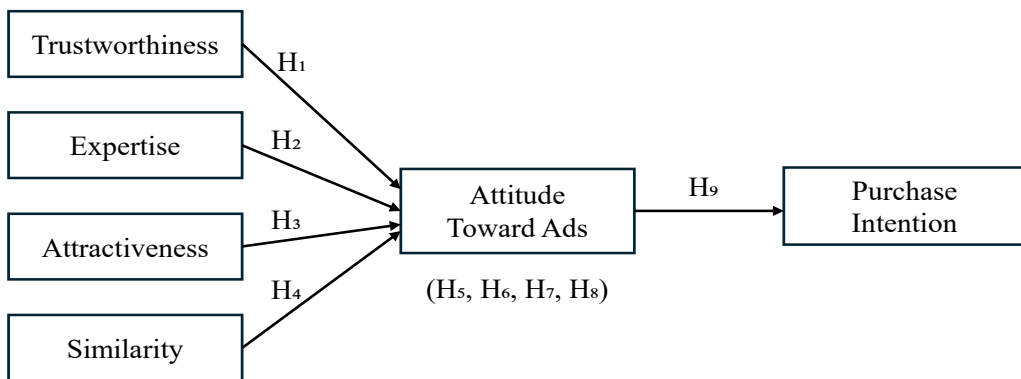


Figure 1: Conceptual framework
Source: Authors' work

METHODS

Data Collection Procedure

The data of this study were collected using self-administered questionnaires via Google Forms. Based on the study context, the target respondents were assumed to generally have access to the Internet. Hence, Google Forms was used to distribute the questionnaires. In ensuring that the scales achieve a satisfactory level of validity and reliability, the questionnaire was validated by three experts who were lecturers from Universiti Teknologi Mara; it had also undergone pre-testing prior to the actual data collection.

The target population of this study are social media users. In specific, the sampling frame is TikTok users. TikTok was selected over other social media platforms for this study for several reasons. First, it enjoys high popularity and engagement among the target demographic of young adults aged 18 to 34, who are the primary users of TikTok (Iqbal, 2024; Statista, 2024). Second, despite being relatively new,

TikTok has proven highly effective in influencer marketing due to its algorithm that significantly boosts the visibility of SMIs, thereby amplifying their reach and impact on consumer behaviour (Geysler, 2024). Third, surveys show that most TikTok users discover new brands on the platforms and subsequently purchase products after seeing them promoted (Lundstrom, 2021; WARC, 2021). Fourth, TikTok's unique features, such as duets, stitches, and trends, enhance creative content creation, setting it apart from other platforms. Finally, TikTok's growing influence in Malaysia's cosmetic industry makes it particularly relevant for this study, ensuring the findings directly apply to industry stakeholders (Iqbal, 2024). Hence, this study focuses on TikTok users to explore the platform's unique influence on consumer behaviour.

The respondents underwent three screening questions to ensure eligibility to fill in the questionnaire, as required by the purposive sampling technique employed in this study. The screening questions are: (1) Are you currently an active user of TikTok?

(2) Have you followed/subscribed to any influencers on TikTok that featured local cosmetic products in their postings? and (3) Have you ever bought any local cosmetic products because an influencer on TikTok recommended it? Eligible respondents were chosen based on those who answered 'Yes' to the first two questions and 'No' to the third question. The link to the Google questionnaire was distributed through several social media platforms, which took place between 5th November 2022 and 9th January 2023. The Google Survey managed to collect 164 valid responses.

Sample Size and Respondent Profile

This study focuses on Malaysian consumers aged between 18 and 34 because people from this age group are known to be dominant TikTok users (Statista, 2024). As the specific sampling frame was not accessible, *G*Power* software (with parameters $f^2 = 0.15$, power = 0.95, Alpha = 0.05, and predictors = 4) was employed to determine the minimum sample size required. Analysis using *G*Power* 3.1.9.7 software revealed that a minimum of 129 participants was necessary for this study. Hair et al. (2014, 2017) and Ringle et al. (2020) recommended using power analysis to determine sample sizes. Recent papers by prominent researchers, such as Memon et al. (2020), Cheah et al. (2019), and Yusliza et al. (2020), also utilised *G*Power* for sample size determination.

Table 1 presents the demographic profile of this study. The majority of the respondents are female (87.2%). Most

respondents (79.9%) belonged to the age group of 18–24 years. Furthermore, the majority of the respondents are of Dusun ethnicity (28.3%). Most currently reside in Kota Kinabalu (65.8%), and 92.1% of the respondents were from Sabah and Sarawak. Students comprised the most respondents in this study (119 or 72.6%), with most having no monthly income (66.5%). Additionally, the majority of these respondents possess an STPM/Diploma or equivalent (48.8%), which is their highest educational level.

In regard to TikTok usage, the majority of the respondents admitted using TikTok for more than three hours daily (28.7%), and most of them claimed to watch TikTok videos that featured local cosmetic products a few times a day (30.5%). Also, skincare products are the most viewed on TikTok amongst the respondents (89%), followed by make-up products (65.9%) and fragrances (49.4%).

Measurement

The measurement scales used in this study were adapted and adopted from prior established studies, such as Muda and Hamzah (2021) for the trustworthiness, expertise, and attractiveness constructs, Munukka et al. (2016) for the similarity construct, Belanche et al. (2021) for attitude towards ad construct, and Muda and Hamzah (2021) for purchase intention construct. All these scales adopt a 7-point Likert scale, ranging from 1 (strongly disagree) to 7 (strongly agree). Table 2 presents the constructs and measurement items used in this study.

Table 1
Demographics of respondents

Variable(s)	Frequency	Percentage
Age Group		
18 to 24 years old	131	79.9
25 to 34 years old	33	20.1
Gender		
Male	21	12.8
Female	143	87.2
Ethnicity		
Kadazan	16	9.8
Dusun	39	23.8
Bajau	28	17.1
Bugis	11	6.7
Malay	31	18.9
Chinese	1	0.6
Indian	0	0
Others	38	23.2
Residential District		
Kota Kinabalu	108	65.9
Penampang	11	6.7
Tuaran	27	16.5
Papar	5	3.0
Others	13	7.9
Hometown		
Sabah & Sarawak	151	92.1
Northern States (Perlis/Perak/Kedah/Penang)	4	2.4
Southern States (Melaka/Johor)	3	1.8
Western States (Negeri Sembilan/Selangor)	4	2.4
Federal Territory (Kuala Lumpur/Putrajaya/ Labuan)	2	1.2
Employment Status		
Public sector employee	8	4.9
Private sector employee	24	14.6
Self-employed	9	5.5
Unemployed	4	2.4
Student	119	72.6
Monthly Income		
Below RM 1,500	23	14
RM 1, 501–RM 2,500	25	15.2
RM 2,501–RM 3,500	5	3
RM 3,500–RM 4,000	2	1.2
More than RM 4,001	0	0
Not applicable (e.g., unemployed/student)	109	66.5

Table 1 (Continue)

Variable(s)	Frequency	Percentage
Education Level		
SPM and below	27	16.5
STPM/Diploma or equivalent	80	48.8
Bachelors' Degree	57	34.8
Masters' Degree	0	0
Doctoral Degree	0	0
Time Spent on TikTok daily		
Less than 30 minutes	9	5.5
31 to 60 minutes	42	25.6
1 hour to 2 hours	44	26.8
2 hours to 3 hours	22	13.4
More than 3 hours	47	28.7
Frequency of Watching TikTok Videos Featuring Local Cosmetic Products		
Once a month	8	4.9
A few times a month	40	24.2
Once a week	10	6.1
A few times a week	47	28.7
Once a day	9	5.5
A few times a day	50	30.5
Types of Local Cosmetic Products Viewed on TikTok		
Skincare	146	89.0
Make-up	108	65.9
Body care	69	42.1
Haircare	79	48.2
Oral care	30	18.3
Fragrances	81	49.4

Source: Authors' work

Table 2
Research instrument

Construct/Items	Questions
Trustworthiness (TR)	
TR1	The influencer who provides cosmetic product reviews on TikTok is dependable.
TR2	The influencer who provides cosmetic product reviews on TikTok is honest.
TR3	The influencer who provides cosmetic product reviews on TikTok is reliable.
TR4	The influencer who provides cosmetic product reviews on TikTok is sincere.
TR5	The influencer who provides cosmetic product reviews on TikTok is trustworthy.

Table 2 (Continue)

Construct/Items	Questions
Expertise (EX)	
EX1	The influencer who reviews cosmetic products on TikTok is experienced in cosmetic products.
EX2	The influencer who provides cosmetic product reviews on TikTok is an expert in cosmetic products.
EX3	The influencer who provides cosmetic product reviews on TikTok is knowledgeable in cosmetic products.
EX4	The influencer who provides cosmetic product reviews on TikTok is qualified to offer cosmetic advice.
EX5	The influencer who provides cosmetic product reviews on TikTok is skilled in cosmetic products.
Attractiveness (ATT)	
ATT1	The influencer who provides cosmetic product reviews on TikTok is beautiful/good-looking.
ATT2	The influencer who provides cosmetic product reviews on TikTok is attractive.
ATT3	The influencer who provides cosmetic product reviews on TikTok is sexy.
ATT4	The influencer who provides cosmetic product reviews on TikTok is elegant/charming.
ATT5	The influencer who provides cosmetic product reviews on TikTok is glamorous.
Similarity (SM)	
SM1	The TikTok influencer and I have a lot in common.
SM2	The TikTok influencer and I are a lot alike.
SM3	I can easily identify with the TikTok influencer.
Attitude Toward Advertisement (AAD)	
AAD1	I think that this TikTok video posted by the influencer is interesting.
AAD2	I think that this TikTok video posted by the influencer is pleasant.

Table 2 (Continue)

Construct/Items	Questions
AAD3	I think that this TikTok video posted by the influencer is likeable.
AAD4	I have a favourable opinion about the TikTok video posted by the influencer.
Purchase Intention (PI)	
PI1	I intend to buy a local cosmetic product recommended by an influencer on TikTok in the near future.
PI2	I will likely purchase a local cosmetic product recommended by a TikTok influencer in the near future.
PI3	I would consider buying the local cosmetic product featured in the influencer's TikTok post.
PI4	My willingness to buy the local cosmetic product featured on influencers' posts on TikTok is high.
PI5	I will definitely buy local cosmetic products recommended by influencers on TikTok in the near future.

Source: Authors' work

Statistical Data Analysis

The study employs the PLS-SEM technique to analyse the research model and hypotheses. Specifically, SmartPLS 4.0 software was utilised to analyse the data attained from this study (Ringle et al., 2022). Initially, the outer model was used to assess the reliability and validity of all constructs. In the next part, the structural model was assessed to evaluate the significance of path coefficients (Hair et al., 2017).

Smart PLS 4.0 was used because the structure of PLS-SEM is designed to provide causal explanations; hence, it is deemed suitable for prediction-oriented research (Hair et al., 2019). Given that this research aims to examine the relationship between

trustworthiness, expertise, attractiveness (causes), and consumers' attitude (mediator) to purchase local cosmetic products (effect), this tool is therefore used. In addition, this technique is recommended by Hair et al. (2017) for its ability to estimate sample size models with high statistical power.

Common Method Bias (CMB) and Common Method Variance (CMV)

The current study relies on self-reported data, which introduces susceptibility to CMB and CMV. Evaluating method bias to mitigate potential issues during subsequent data analysis phases is imperative. The Harman Single Factor Test was conducted, revealing that the primary factor accounted

for only 47.36% of the variance, which is less than 50%, indicating that common bias is not a concern in this study. Additionally, by incorporating a marker variable in the questionnaire, we compare the path coefficient (β) between the baseline model and the model, including the marker variable. We observed no significant differences in the values, with variances ranging between 0.000 and 0.002. Moreover, the change in R^2 without the marker variable (0.563) compared with the marker variable (0.564) was only 0.001, suggesting minimal impact. Consequently, based on these findings, it is reasonable to conclude that this study is not susceptible to either CMB or CMV.

RESULTS

First Step: Measurement Assessment of the Reflective Measurement Model (First-Order Construct)

First, the measurement model was evaluated to test the validity and reliability of the instruments using the guidelines by Hair et al. (2019) and Ramayah et al. (2018). This evaluation assessed the factor loadings, Average Variance Extracted (AVE), and Composite Reliability (CR). Hair et al. (2019) recommend that factor loadings should be ≥ 0.708 to ensure that the construct explains a significant portion of the variance in the indicators. As shown in Table 3, all loadings meet this criterion except for one item (ATT3). The AVE, which indicates the average variance captured by the construct relative to measurement error, should be ≥ 0.5 . In this study, all AVE values exceeded

this threshold, with the lowest being 0.770, indicating that more than half of the observed variables were attributable to their respective factors. CR, which assesses the internal consistency of the construct, should be ≥ 0.7 . All CR values in this study were above this threshold, with the lowest at 0.930, indicating that all measurement items are reliable and internally consistent. A universally accepted norm for Cronbach's Alpha (α) value is a score of 0.6–0.7, which indicates an acceptable degree of reliability, and a score of 0.8 or higher indicates a very good level. In this study, Cronbach's Alpha values for all constructs range from 0.893 to 0.959, indicating that the constructs are effectively measuring their intended concepts. One item (ATT3) was deleted due to a loading value below ≥ 0.708 .

An HTMT analysis assessed discriminant validity by comparing correlations between different constructs with correlations within the same construct. This analysis confirms whether the constructs are distinct, ensuring that the measures used capture unique concepts and do not overlap or measure the same underlying construct. The established threshold proposed by Henseler et al. (2015) and updated by Franke and Sarstedt (2019) serves as a guideline for path models incorporating conceptually similar constructs. Accordingly, HTMT values should be equal to or less than 0.85, while the stricter and lenient mode criteria should be equal to or less than 0.90. As can be seen in Table 4, the highest value recorded was 0.752, lower than the stricter threshold of 0.85. As a result, it can be concluded that the

Table 3
Measurement model analysis

Construct/items	Loadings	α	CR	AVE
Trustworthiness		0.934	0.950	0.791
TR1	0.906			
TR2	0.885			
TR3	0.864			
TR4	0.923			
TR5	0.867			
Expertise		0.943	0.950	0.814
EX1	0.892			
EX2	0.915			
EX3	0.921			
EX4	0.904			
EX5	0.877			
Attractiveness		0.901	0.930	0.770
ATT1	0.850			
ATT2	0.924			
ATT3	Deleted			
ATT4	0.850			
ATT5	0.884			
Similarity		0.893	0.933	0.832
SM1	0.901			
SM2	0.927			
SM3	0.893			
Attitude Toward Ad		0.926	0.948	0.819
AAD1	0.894			
AAD2	0.933			
AAD3	0.926			
AAD4	0.866			
Purchase Intention		0.959	0.969	0.861
PI1	0.905			
PI2	0.935			
PI33	0.926			
PI4	0.949			
PI5	0.923			

Source: Authors' work

Table 4
Discriminant validity (HTMT)

	AAD	ATT	EX	PI	SM	TR
AAD						
ATT	0.653					
EX	0.611	0.469				
PI	0.710	0.512	0.588			
SM	0.556	0.310	0.677	0.639		
TR	0.722	0.522	0.752	0.741	0.706	

Source: Authors' work

respondents could differentiate the variables in this study. Conclusively, both validity tests reveal that the measuring items are valid and reliable.

Second Step: Assessment of the Structural Model (Hypotheses Testing)

Hypotheses Testing of the Direct Relationship

As shown in Table 5, following the suggestions of Hair et al. (2019), this study reported the path coefficients, the standard errors, *t*-values, and *p*-values for the structural model using a 5,000-sample re-sample bootstrapping procedure (Ramayah et al., 2018). According to Hahn and Ang (2017), *p*-values are not a good criterion for assessing the significance of a hypothesis. Instead, a combination of criteria, such as *p*-values, confidence intervals, and effect sizes, should be used. Table 5 summarises the criteria to assess the proposed hypotheses.

The direct effect of the source credibility dimension on consumers' attitude towards advertisements, R^2 , was 0.563 ($Q^2 = 0.535$), which suggests all four predictors explained 56.3% of the variance in consumer attitude towards advertisements. Additionally, the

direct effect of attitude towards advertisement on consumers' purchase intention, R^2 was 0.452 ($Q^2 = 0.463$), trustworthiness (H1: $\beta = 0.360, p = 0.000$), and attractiveness (H3: $\beta = 0.361, p = 0.000$) are positively linked to attitude towards advertisement. Meanwhile, expertise (H2: $\beta = 0.088, p = 0.314$) and similarity (H4: $\beta = 0.119, p = 0.138$) exhibit insignificant relationships with consumers' purchase intention. In addition, the analysis revealed a positive relationship between attitude towards advertisement and purchase intention (H9: $\beta = 0.672, p = 0.000$); thus, H1, H3, and H9 are supported.

Mediation

This study employs the suggestions from Aguinis et al. (2017) to test the full mediation effect while excluding the direct effect between independent and dependent variables. Table 6 provides an assessment of the mediating effect of attitude towards advertisement (AAD) in relationships between different dimensions of source credibility (trustworthiness, expertise, attractiveness, similarity) and purchase intention (PI). The analysis follows the criteria where *t*-values exceeding

Table 5
Hypotheses testing for direct relationships

Hypotheses	Relationship	Std Beta	Std Dev	t-value	p-value	BCI LL	BCI UL	f ²	Supported
H1	TR -> AAD	0.360	0.097	3.716	0.000	0.612	0.373	0.119	Yes
H2	EX -> AAD	0.088	0.087	1.007	0.314	-0.071	0.268	0.008	No
H3	ATT -> AAD	0.361	0.068	5.329	0.000	0.221	0.489	0.226	Yes
H4	SM -> AAD	0.119	0.080	1.482	0.138	-0.036	0.274	0.017	No
H9	AAD -> PI	0.672	0.047	14.409	0.000	0.582	0.764	0.823	Yes

Source: Authors' work

1.96 and *p*-values below 0.05 indicate significant mediation. It is observed that attitude towards advertisement significantly mediates the relationship between trustworthiness (H5: *t* = 3.598, *p* = 0.000) and attractiveness (H7: *t* = 5.134, *p* = 0.000). Conversely, attitude towards advertisement does not mediate

the relationship between expertise (H6: *t* = 0.985, *p* = 0.325) and similarity (H8: *t* = 1.447, *p* = 0.148) towards purchase intention. This result underscores the varying roles of AAD in influencing how trustworthiness and attractiveness impact consumer purchase intentions within the studied framework.

Table 6
Assessment of significant mediating effect

Hypotheses	Relationship	Std Dev	t-value	p-value	BCI LL	BCI UL	Supported
H5	TR -> AAD -> PI	0.067	3.598	0.000	0.108	0.373	Yes
H6	EX -> AAD -> PI	0.060	0.985	0.325	-0.048	0.189	No
H7	ATT -> AAD -> PI	0.047	5.134	0.000	0.150	0.325	Yes
H8	SM -> AAD-> PI	0.055	1.447	0.148	-0.024	0.191	No

Note. *t*-values > 1.96 and *p*-values < 0.05

Source: Authors' work

DISCUSSION

The data analyses conducted revealed that H1 in this study is supported. This finding is consistent with prior studies that have demonstrated the crucial role of trustworthiness in advertising effectiveness under the context of SMIs (Lou & Yuan, 2019; Chekima et al., 2020; Janssen et al., 2022). Essentially, this suggests that the trustworthiness of TikTok influencers significantly impacts consumers' attitudes

towards the content, recommendations, or information related to local cosmetic products that the influencers share on TikTok. It indicates that consumers tend to favour brands endorsed by trustworthy influencers, contributing to positive attitudes and increased intention to purchase (Balaban & Mustăţea, 2019; Wiedmann & von Mettenheim, 2020). Trustworthiness is a crucial attribute that enhances credibility, and it aligns with the Source Credibility

Theory, which states that a message is more likely to be accepted when it comes from a source perceived as credible (Umeongu, 2012). Therefore, it is reasonable to consider trustworthiness as a key factor influencing consumer attitudes.

On the other hand, the data analyses show that H2 is not supported. The findings from this study indicate that expertise is not a characteristic highly sought-after by consumers, and this finding shows similarity with several other studies (e.g., Ladhari et al., 2020; Lin et al., 2021; Lou & Yuan, 2019; Mat et al., 2019). Nevertheless, the insignificance of expertise can be attributed to the respondents' ages and gender. Since the majority of the respondents were young female students who were already knowledgeable about cosmetic products, the expertise of TikTok influencers in cosmetics may be irrelevant to them. Furthermore, the findings from this study support Munnukka et al.'s (2016) suggestion that the impact of endorsers' expertise can vary based on the complexity of the product. Consumers may rely less on the influencers' expertise for simpler products like cosmetics, especially if they are already familiar with them. In this study, since most respondents are young females knowledgeable about cosmetics, the expertise of TikTok influencers does not significantly affect their attitude toward advertisement.

H3, which is meant to assess whether the attractiveness of TikTok influencers affects consumers' attitudes towards advertisements, is supported. It suggests that when an attractive TikTok influencer posts

promotional content on TikTok, it is more likely to garner favourable attitudes from the consumers. Psychical attractiveness is often linked with positive traits like success, health, social status, likability, and trustworthiness. These traits are known to enhance influencers' credibility and persuasiveness (Chekima et al., 2020; Lou & Yuan, 2019; Munnukka et al., 2016; Schouten et al., 2020). Furthermore, the context of this study may also have influenced the findings. Many scholars have postulated that the physical attractiveness of the endorser positively affects advertising credibility, especially when the endorsed product is perceived to enhance physical appearance (Muda & Hamzah, 2021; Munnukka et al., 2016; Schouten et al., 2020). Since the topic under investigation involves cosmetic products, it is unsurprising that people would respond favourably towards advertisements or promotional content from attractive influencers.

Next, based on the data analyses, H4, which evaluates whether the similarity of TikTok influencers and consumers can impact consumers' attitudes toward advertisements, is not significant. This might indicate that the respondents do not necessarily feel a strong sense of identification or similarity with TikTok influencers. One possible underlying assumption could be related to their demographic characteristics. The respondents might not perceive themselves as sharing the same demographic characteristics as the influencers, such as gender, age, ethnicity, and income level. For instance, regarding differences in income

level, a Malaysian influencer could typically earn MYR 10k to MYR 100k per month, depending on factors such as follower count, content type, and platform monetisation (“How much does a Malaysian influencer earn?”, 2023). The demographic analysis reported that none of the respondents had an income level exceeding MYR 4k per month. Additionally, the majority of respondents were either students or unemployed (66.7%), indicating their lack of stable incomes. The significant gap in income levels may contribute to the feeling of dissimilarity towards TikTok influencers.

Ethnic differences might also explain the insignificant impact of perceived similarity, as observed in this study with respondents representing diverse ethnic backgrounds. Levin (1996) highlighted that racial groups display variations in facial features, such as hair colour, face size, and skin texture, contributing to their distinct appearances. These inherent distinctions across ethnicities could result in using distinct cosmetic products or application techniques.

It is widely recognised that consumer attitudes are pivotal predictors of purchase intentions, a concept deeply rooted in foundational theories, such as the Theory of Reasoned Action (TRA) and the Theory of Planned Behaviour (TPB) (Ajzen, 1991; Ajzen & Fishbein, 1977). These theories consistently assert that attitudes significantly influence behavioural intentions, positing that positive attitudes lead to stronger intentions to engage in specific behaviours (Ing & Ming, 2018). Consistent with prior findings (e.g., Ariffin

et al., 2022; Mathur et al., 2021; Najjar & Rather, 2021), this study reveals that consumers' attitude towards advertisements significantly affects consumers' intention to purchase local cosmetic products. Therefore, H9 is supported. This study refers to ‘advertisement’ as promotional content featuring local cosmetic products, specifically by influencers on TikTok. In essence, when consumers show a favourable attitude towards promotional content conveyed by TikTok influencers, there is also a high possibility that their intention to purchase the product featured in the TikTok video is elevated.

Finally, the bootstrapping analysis in this study reveals that the relationship between trustworthiness and purchase intention (H5) and the relationship between attractiveness and purchase intention (H7) is fully mediated by attitude towards advertisement. The analysis outcomes indicate that when the influencers are perceived as trustworthy and attractive, it will generate positive behaviour of consumers towards promotional content of local cosmetic products featured in the particular influencers' TikTok videos, which consequently enhances consumers' intention to purchase the cosmetic products. It suggests that consumers' attitudes, influenced by credibility traits, do indeed play a role in determining their intent to purchase (Lim et al., 2017; Nafees et al., 2021). On the other hand, there is no mediating effect of attitude towards advertisement found in the relationship between expertise and purchase intention (H6), as well as the relationship

between similarity and purchase intention (H8).

CONCLUSION

In conclusion, this study demonstrates the importance of the credibility traits of SMIs in shaping consumers' purchase intentions, specifically within the context of the Malaysian local cosmetic industry. The findings from this study indicate that the trustworthiness and physical attractiveness of SMIs are significant drivers of consumers' positive attitudes towards advertisements, which in turn can influence their intention to purchase local cosmetic products. These results align with previous research on source credibility and advertising effectiveness, thus reinforcing the idea that consumers are more likely to be influenced by credible and attractive influencers. In contrast, expertise and similarity were not found to significantly impact purchase intention, possibly due to demographic factors such as age, gender, and existing product knowledge among the respondents of this study.

Theoretical, Managerial, Methodological, and Social Implications

The results of this study contribute to the advancement of existing literature by enriching the theoretical perspectives in the following ways: First, while Source Credibility Theory has been extensively studied in traditional advertising and celebrity endorsements, this research explores its relevance and dynamics in a relatively new and rapidly growing context, namely TikTok influencers.

Secondly, by examining the mediating role of consumers' attitudes towards advertisements between the relationship of TikTok influencers' credibility and consumers' purchase intention, this study highlights the significance of consumers' perceptions of credibility, not only towards their intention to purchase but also their attitude towards advertisements, which further influence their decisions. Thirdly, this study empirically validates the proposed hypotheses, strengthening the theoretical foundations of Source Credibility Theory in the digital age. In addition, the findings from this study substantiated the fact that each dimensions have independent effects on source credibility (Munnukka et al., 2016), further confirming that the source credibility dimensions are highly recommended to be tested individually instead of as a single dimension. Next, this study also has narrowed empirical gaps in terms of the effects of source credibility, which has yet to be conclusive (Halder et al., 2021) and attributes of SMIs that enhanced the effectiveness of promotional messages, which is deemed relatively scarce (Duh & Thabethe, 2021).

Additionally, this study offers valuable implications for practitioners in the local cosmetic industry, which includes shareholders, marketing managers, and social media influencers. This research reveals that the credibility attributes of TikTok influencers, namely trustworthiness and attractiveness, are the key determinants of favourable attitudes towards advertisement and, ultimately, consumers' intention to

purchase local cosmetic products. Therefore, it is strongly advised that when selecting influencers on TikTok to represent cosmetic products, marketers should ensure that the influencers have personally used and tested the products before sharing them with their followers. This can be done by sending product samples to influencers so they can provide first-hand information regarding the product as honestly and truthfully as possible, thereby building trust with their audience and positively influencing consumers' purchase intention. In addition, it is also recommended that the influencer representing or endorsing the cosmetic product is someone who maintains a presentable and attractive image both online and offline. Marketers or SMIs should also pay attention to the content shared online because this study implies that attitude towards advertisements affects consumers' intention to purchase local cosmetic products. The credibility and reliability of the promotional content shared regarding local cosmetic products should be preserved.

From the viewpoint of methodological contribution, this study added to the imminent decisions by demonstrating the applicability of the statistical tool SmartPLS 4.0 to analyse the data, especially studies that include mediating effects. Secondly, the current study adopts the recommendations by Aguinis et al. (2017), who encouraged a complete mediation test. It further assisted in refining the understanding of the relationships between variables and enhanced the validity and applicability of

the results. Thirdly, the measurement items in this study were adopted and adapted from previously established studies and had undergone reliability and validity checking, implying the applicability of the measurement items. Additionally, the measurement items were made to fit in the context of SMIs, specifically TikTok influencers. Hence, the instrument may be feasible for future studies in the context of TikTok influencers.

Lastly, in terms of social implications, this study provided additional insights into how consumers' purchase intentions of local cosmetic products are affected by TikTok influencers through their credibility traits. This study contributes to helping local cosmetic industry players, as well as TikTok influencers, understand consumers' purchase intentions. More knowledge and understanding of the intention to purchase can help local cosmetic industry players and influencers make business decisions and develop marketing strategies to encourage people to purchase local cosmetic products. For example, this study found that the trustworthiness and attractiveness of TikTok influencers positively affect consumers' purchase intention through positive attitudes towards advertisement. Hence, the efforts should stem from enhancing or ensuring that the SMI are trustworthy and attractive before having them endorse the local cosmetic products. Correspondingly, this can amass a positive attitude towards the promotional content shared on TikTok and eventually increase consumers' purchase intention.

Limitations and Future Research Suggestions

Although this study has contributed substantially to the body of knowledge, the cosmetic industry and society, it is not without limitations. This study primarily focuses on a specific age group, namely TikTok users in Malaysia, with a particular emphasis on the sample from Sabah and Sarawak. Future studies should consider including a more diverse sample representing various demographic profiles, such as age, gender, or geographical location. Secondly, there seemed to be persistent homogeneity in the sample in this study, specifically in terms of gender and income level, which is comprised mostly of female students with no monthly income. Future studies should aim for a more heterogeneous sample to account for diverse consumer profiles. Although this study has fulfilled the minimum sample size suggested by *G*Power*, future research can enhance this limitation by collecting more samples. Moreover, this study employs a cross-sectional research design, which captures data only once. Considering the rapid evolution of influencer marketing and swift technological changes, future research may consider adopting longitudinal or experimental research design as it can offer a more in-depth and holistic understanding of the dynamic landscape. Another potential limitation of this study may revolve around not distinguishing the type of TikTok influencers (i.e., micro-influencers, mega-influencers). The number of followers can distinguish these types of influencers, and there is a possibility

that the number of followers can affect credibility perception. Future studies may also investigate the role of different types of influencers and how they affect credibility perception. Finally, the current study only focuses on the credibility effects of TikTok influencers. Since TikTok is known for its engagement rates compared to established platforms (Geysler, 2022), future studies could include online engagement in the study construct. Additionally, the findings from this study imply attractiveness and trustworthiness as significant traits of SMIs, while expertise and similarity do not. This outcome presents somewhat contradictory findings compared to most studies that imply positive effects of expertise and similarity on consumers' attitudes and, ultimately, their purchase intentions. This discrepancy suggests the possibility of other factors influencing consumers' attitudes towards advertisements and purchase intentions. Future studies could delve deeper into these potential factors to provide a more comprehensive understanding of the dynamics at play in influencer marketing. It could involve incorporating moderator variables to strengthen the relationships between different variables.

ACKNOWLEDGMENT

We want to acknowledge the funding provided by Universiti Teknologi MARA, Malaysia grant number 600-RMC/GIP 5/3 (025/2023), for supporting this research.

REFERENCES

- Aguinis, H., Edwards, J. R., & Bradley, K. J. (2017). Improving our understanding of moderation and mediation in strategic management research. *Organizational Research Methods, 20*(4), 665-685. <https://doi.org/10.1177/1094428115627498>
- Ajzen, I. (1989). Attitude structure and behavior. In A. R. Pratkanis, S. J. Breckler & A. G. Greenwald (Eds.), *Attitude structure and function* (pp. 241-274). Lawrence Erlbaum Associates. <https://doi.org/10.4324/9781315801780>
- Ajzen, I. (1991). The Theory of Planned Behavior. *Organizational Behavior and Human Decision Processes, 50*(2), 179-211. [https://doi.org/10.1016/0749-5978\(91\)90020-T](https://doi.org/10.1016/0749-5978(91)90020-T)
- Ajzen, I., & Fishbein, M. (1977). Attitude-behavior relations: A theoretical analysis and review of empirical research. *Psychological Bulletin, 84*(5), 888-918. <https://doi.org/10.1037/0033-2909.84.5.888>
- AlFarraj, O., Alalwan, A. A., Obeidat, Z. M., Baabdullah, A., Aldmour, R., & Al-Haddad, S. (2021). Examining the impact of influencers' credibility dimensions: Attractiveness, trustworthiness and expertise on the purchase intention in the aesthetic dermatology industry. *Review of International Business and Strategy, 31*(3), 355-374. <https://doi.org/10.1108/ribs-07-2020-0089>
- Amos, C., Holmes, G., & Stratton, D. (2008). Exploring the relationship between celebrity endorser effects and advertising effectiveness: A quantitative synthesis of effect size. *International Journal of Advertising, 27*(2), 209-234. <https://doi.org/10.1080/02650487.2008.11073052>
- Ariffin, S. K., Ng, F., & Mohsin, A. M. A. (2021). Examining the influencing factors of consumer purchase intention toward fast food with health concerns as a moderator. *Journal of Entrepreneurship, Business and Economics, 9*(2), 39-71.
- Ayeh, J. K., Au, N., & Law, R. (2013). "Do we believe in TripAdvisor?" Examining credibility perceptions and online travellers' attitude toward using user-generated content. *Journal of Travel Research, 52*(4), 437-452. <https://doi.org/10.1177/0047287512475217>
- Badarudin, N. (2018, January 17). Rise of local cosmetic brands. *NST Online*. <https://www.nst.com.my/lifestyle/flair/2018/01/325908/rise-local-cosmetic-brand>.
- Balaban, D., & Mustăţea, M. (2019). Users' perspective on the credibility of social media influencers in Romania and Germany. *Romanian Journal of Communication and Public Relations, 21*(1), 31-46. <https://doi.org/10.21018/rjcp.2019.1.269>
- Belanche, D., Casaló, L. V., Flavián, M., & Ibáñez-Sánchez, S. (2021). Building influencers' credibility on Instagram: Effects on followers' attitudes and behavioral responses toward the influencer. *Journal of Retailing and Consumer Services, 61*, Article 102585. <https://doi.org/10.1016/j.jretconser.2021.102585>
- Brown, S. P., & Stayman, D. M. (1992). Antecedents and consequences of attitude toward the ad: A meta-analysis. *Journal of Consumer Research, 19*(1), 34-51. <https://doi.org/10.1086/209284>
- Chakraborty, U. (2019). The impact of source credible online reviews on purchase intention: The mediating roles of brand equity dimensions. *Journal of Research in Interactive Marketing, 13*(2), 142-161. <https://doi.org/10.1108/JRIM-06-2018-0080>
- Chang, C. (2011). Feeling ambivalent about going green. *Journal of Advertising, 40*(4), 19-32. <https://doi.org/10.2753/JOA0091-3367400402>
- Cheah, J. H., Ting, H., Ramayah, T., Memon, M. A., Cham, T. H., & Ciavolino, E. (2019). A comparison of five reflective-formative estimation approaches: reconsideration and recommendations for tourism research. *Quality & Quantity, 53*, 1421-1458. <https://doi.org/10.1007/s11135-018-0821-7>
- Chekima, B., Chekima, F. Z., & Adis, A. A. A. (2020). Social media influencer in advertising: The role of attractiveness, expertise and trustworthiness.

- Journal of Economics and Business*, 3(4), 15-7-1515. <https://doi.org/10.31014/aior.1992.03.04.298>
- Chetioui, Y., Benlafqih, H., & Lebdaoui, H. (2020). How fashion influencers contribute to consumers' purchase intention. *Journal of Fashion Marketing and Management: An International Journal*, 24(3), 361-380. <https://doi.org/10.1108/JFMM-08-2019-0157>
- Chin, P. N., Isa, S. M., & Alodin, Y. (2020). The impact of endorser and brand credibility on consumers' purchase intention: The mediating effect of attitude towards brand and brand credibility. *Journal of Marketing Communications*, 26(8), 896-912. <https://doi.org/10.1080/13527266.2019.1604561>
- Choi, W., & Lee, Y. (2019). Effects of fashion vlogger attributes on product attitude and content sharing. *Fashion and Textiles*, 6, Article 6. <https://doi.org/10.1186/s40691-018-0161-1>
- Duffy, B. E. (2020). Social media influencers. In K. Ross, I. Bachmann, V. Cardo, S. Moorti, & C. M. Scarcelli (Eds.), *The international encyclopedia of gender, media, and communication*. Wiley-Blackwell. <https://doi.org/10.1002/9781119429128.iegmc219>
- Duh, H. I., & Thabethe, T. (2021). Attributes of Instagram influencers impacting consumer brand engagement. *International Journal of Internet Marketing and Advertising*, 15(5-6), 477-497. <http://doi.org/10.1504/IJIMA.2021.10034199>
- Eagly, A. H., & Chaiken, S. (1993). *The psychology of attitudes*. Harcourt Brace Jovanovich College Publishers. <https://psycnet.apa.org/record/1992-98849-000>
- Evans, M. (2019, September 23). *Five key traits defining connected consumers in 2019*. Forbes. <https://www.forbes.com/sites/michelleevans1/2019/09/23/five-key-traits-defining-connected-consumers-in-2019/?sh=5a85796f22df>
- Franke, G., & Sarstedt, M. (2019). Heuristics versus statistics in discriminant validity testing: A comparison of four procedures. *Internet Research*, 29(3), 430-447. <https://doi.org/10.1108/IntR-12-2017-0515>
- Gaber, H. R., Wright, L. T., & Kooli, K. (2019). Consumer attitudes towards Instagram advertisements in Egypt: The role of the perceived advertising value and personalization. *Cogent Business & Management*, 6(1), Article 1618431. <http://doi.org/10.1080/23311975.2019.1618431>
- Geyser, W. (2022). *TikTok statistics – 63 TikTok stats you need to know*. Influencer Marketing Hub. <https://influencermarketinghub.com/tiktok-stats/#:%7E:text=TikTok%20has%20considerably%20more%20engagement,%2C%20and%201.63%25%20on%20YouTube>
- Geyser, W. (2023). *The state of influencer marketing 2023: Benchmark report*. Influencer Marketing Hub. <https://influencermarketinghub.com/influencer-marketing-benchmark-report/>
- Geyser, W. (2024). *The state of influencer marketing 2024: Benchmark report*. Influencer Marketing Hub. <https://influencermarketinghub.com/influencer-marketing-benchmark-report/>
- Green, D., Polk, X. L., Arnold, J., Chester, C., & Matthews, J. (2022). The rise of TikTok: A case study of the new social media Giant. *Management and Economics Research Journal*, 8(1), Article 9900063. <https://doi.org/10.18639/MERJ.2022.9900063>
- Haenlein, M., Anadol, E., Farnsworth, T., Hugo, H., Hunichen, J., & Welte, D. (2020). Navigating the new era of influencer marketing: How to be successful on Instagram, TikTok, & Co. *California Management Review*, 63(1), 5-25. <https://doi.org/10.1177/0008125620958166>
- Hahn, E. D., & Ang, S. H. (2017). From the editors: New directions in the reporting of statistical results in the Journal of World Business. *Journal of World Business*, 52(2), 125–126. <https://doi.org/10.1016/j.jwb.2016.12.003>
- Hair, J. F., Black, W., Babin, B. J., Anderson, R. E., & Tatham, R. L. (2006). *Multivariate data analysis*. Pearson Prentice Hall.

- Hair, J. F., Hult, G. T. M., Ringle, C. M., & Sarstedt, M. (2017). *A primer on partial least squares structural equation modeling (PLS-SEM)* (2nd ed.). Sage.
- Hair, J. F., Risher, J. J., Sarstedt, M., & Ringle, C. M. (2019). When to use and how to report the results of PLS-SEM. *European Business Review*, 31(1), 2-24. <https://doi.org/10.1108/EBR-11-2018-0203>
- Halder, D., Pradhan, D., & Chaudhuri, H. R. (2021). Forty-five years of celebrity credibility and endorsement literature: Review and learnings. *Journal of Business Research*, 125, 397-415. <https://doi.org/10.1016/j.jbusres.2020.12.031>
- Hassan, S. H., Teo, S. Z., Ramayah, T., & Al-Kumaim, N. H. (2021). The credibility of social media beauty gurus in young millennials' cosmetic product choice. *PloS one*, 16(3), Article e0249286. <https://doi.org/10.1371/journal.pone.0249286>
- Henseler, J., Ringle, C. M., & Sarstedt, M. (2015). A new criterion for assessing discriminant validity in variance-based structural equation modeling. *Journal of the Academy of Marketing Science*, 43(1), 115-135. <https://doi.org/10.1007/s11747-014-0403-8>
- Hoffner, C., & Buchanan, M. (2005). Young adults' wishful identification with television characters: The role of perceived similarity and character attributes. *Media Psychology*, 7(4), 325-351. https://doi.org/10.1207/S1532785XMEP0704_2
- Hovland, C. I., & Weiss, W. (1951). The influence of source credibility on communication effectiveness. *Public Opinion Quarterly*, 15(4), 635-650. <https://doi.org/10.1086/266350>
- Hovland, C. I., Janis, I. L., & Kelley, H. H. (1953). *Communication and persuasion*. Yale University Press.
- How much does a Malaysian influencer earn? (2023, March 12). *Mysense*. <https://www.mysense.com.my/how-much-does-a-malaysia-influencer-earn/#:~:text=Income%20Level%20of%20Malaysian%20Influencers&text=Meanwhile%2C%20those%20with%20more%20than,also%20impact%20their%20income%20levels.>
- Hsieh, J. K., & Li, Y. J. (2020). Will you ever trust the review website again? The importance of source credibility. *International Journal of Electronic Commerce*, 24(2), 255-275. <http://doi.org/10.1080/10864415.2020.1715528>
- Hu, X. (2015). *Assessing source credibility on social media-An electronic word-of-mouth communication perspective* [Doctoral dissertation, Bowling Green State University]. OhioLINK Electronic Theses and Dissertations Center. http://rave.ohiolink.edu/etdc/view?acc_num=bgsu1427826970
- Ing, G. P., & Ming, T. (2018). Antecedents of consumer attitude towards blogger recommendations and its impact on purchase intention. *Asian Journal of Business and Accounting*, 11(1), 293-323. <https://doi.org/10.22452/ajba.vol11no1.10>
- Iqbal, M. (2024). *TikTok revenue and usage statistics (2024)*. Business of Apps. <https://www.businessofapps.com/data/tik-tok-statistics/>
- Ismagilova, E., Slade, E., Rana, N. P., & Dwivedi, Y. K. (2020). The effect of characteristics of source credibility on consumer behaviour: A meta-analysis. *Journal of Retailing and Consumer Services*, 53, Article 101736. <https://doi.org/10.1016/j.jretconser.2019.01.005>
- IZEA. (2017). *The 2017 state of the creator economy study*. [https://content.izea.com/hubfs/Gated_Content/2017 State of the Creator Economy \(SOCE\).pdf](https://content.izea.com/hubfs/Gated_Content/2017%20State%20of%20the%20Creator%20Economy%20(SOCE).pdf)
- Janssen, L., Schouten, A. P., & Croes, E. A. (2022). Influencer advertising on Instagram: product-influencer fit and the number of followers affect advertising outcomes and influencer evaluations via credibility and identification. *International Journal of Advertising*, 41(1), 101-127. <https://doi.org/10.1080/02650487.2021.1994205>
- Jin, S. V., Muqaddam, A., & Ryu, E. (2019). Instafamous and social media influencer marketing. *Marketing Intelligence & Planning*, 37(5), 567-579. <https://doi.org/10.1108/MIP-09-2018-0375>

- Khamis, S., Ang, L., & Welling, R. (2017). Self-branding, 'micro-celebrity' and the rise of social media influencers. *Celebrity Studies*, 8(2), 191-208. <https://doi.org/10.1080/19392397.2016.1218292>
- Khan, M. A., Hussain, S., & Raza, S. A. (2021). Factors influencing purchase intention of renewable energy: The mediating role of attitude. *Journal of Cleaner Production*, 279, Article 123682. <https://doi.org/10.1016/j.jclepro.2020.123682>
- Ki, C. W. C., Cuevas, L. M., Chong, S. M., & Lim, H. (2020). Influencer marketing: Social media influencers as human brands attaching to followers and yielding positive marketing results by fulfilling needs. *Journal of Retailing and Consumer Services*, 55, Article 102133. <https://doi.org/10.1016/j.jretconser.2020.102133>
- Kiecker, P., & Cowles, D. (2002). Interpersonal communication and personal influence on the internet: A framework for examining online word-of-mouth. *Journal of Euromarketing*, 11(2), 71-88. https://doi.org/10.1300/J037v11n02_04
- Kim, A. J., & Ko, E. (2012). Do social media marketing activities enhance customer equity? An empirical study of luxury fashion brand. *Journal of Business Research*, 65(10), 1480-1486. <https://doi.org/10.1016/j.jbusres.2011.10.014>
- Kirmani, A., & Campbell, M. C. (2009). Taking the target's perspective: The persuasion knowledge model. In M. Wänke (Ed.), *Social psychology of consumer behavior* (pp. 297-316). Taylor & Francis Group.
- Koay, K. Y., Cheung, M. L., Soh, P. C.-H., & Teoh, C. W. (2022). Social media influencer marketing: The moderating role of materialism. *European Business Review*, 34(2), 224-243. <https://doi.org/10.1108/EBR-02-2021-0032>
- Kumar, K. L., Venugopal, P., Devi, S. A., Aswinipriya, S., & Rao, C. V. (2023). Instagram influencers credibility dimensions and purchase intention of followers: *Empirical evidence*. *Studies in Media and Communication*, 11(1), 12-24. <https://doi.org/10.11114/smc.v11i1.5705>
- Kurdi, B., Alshurideh, M., Akour, I., Tariq, E., AlHamad, A., & Alzoubi, H. (2022). The effect of social media influencers' characteristics on consumer intention and attitude toward Keto products purchase intention. *International Journal of Data and Network Science*, 6(4), 1135-1146. <http://doi.org/10.5267/j.ijdns.2022.7.006>
- Ladhari, R., Massa, E., & Skandrani, H. (2020). YouTube vloggers' popularity and influence: The roles of homophily, emotional attachment, and expertise. *Journal of Retailing and Consumer Services*, 54, Article 102027. <https://doi.org/10.1016/j.jretconser.2019.102027>
- Levin, D. T. (1996). Classifying faces by race: The structure of face categories. *Journal of Experimental Psychology: Learning, Memory, and Cognition*, 22(6), 1364-1382. <https://doi.org/10.1037/0278-7393.22.6.1364>
- Lim, X. J., Radzol, A. M., Cheah, J., & Wong, M. W. (2017). The impact of social media influencers on purchase intention and the mediation effect of customer attitude. *Asian Journal of Business Research*, 7(2), 19-36. <https://doi.org/10.14707/ajbr.170035>
- Lou, C., & Yuan, S. (2019). Influencer marketing: How message value and credibility affect consumer trust of branded content on social media. *Journal of Interactive Advertising*, 19(1), 58-73. <https://doi.org/10.1080/15252019.2018.1533501>
- Lundstrom, K. (2021, May 3). *Nearly half of TikTokers are buying stuff from brands they see on the platform*. Adweek. <https://www.adweek.com/brand-marketing/nearly-half-of-tiktokers-are-buying-stuff-from-brands-they-see-on-the-platform/>
- MacKenzie, S. B., Lutz, R. J., & Belch, G. E. (1986). The role of attitude toward the ad as a mediator of advertising effectiveness: A test of competing explanations. *Journal of Marketing Research*, 23(2), 130-143. <https://doi.org/10.2307/3151660>
- Martensen, A., Brockenhuus-Schack, S., & Zahid, A. L. (2018). How citizen influencers persuade

- their followers. *Journal of Fashion Marketing and Management: An International Journal*, 22(3), 335-353. <https://doi.org/10.1108/JFMM-09-2017-0095>
- Masuda, H., Han, S. H., & Lee, J. (2022). Impacts of influencer attributes on purchase intentions in social media influencer marketing: Mediating roles of characterizations. *Technological Forecasting and Social Change*, 174, Article 121246. <https://doi.org/10.1016/j.techfore.2021.121246>
- Mat, W. R. W., Kim, H. J., Manaf, A. A. A., Ing, G. P., & Adis, A. A. A. (2019). Young Malaysian consumers' attitude and intention to imitate Korean celebrity endorsements. *Asian Journal of Business Research*, 9(3), 1-23. <https://doi.org/10.14707/ajbr.190065>
- Mathur, S., Tewari, A., & Singh, A. (2021). Modeling the factors affecting online purchase intention: The mediating effect of consumer's attitude towards user-generated content. *Journal Of Marketing Communications*, 28(7), 725-744. <https://doi.org/10.1080/13527266.2021.1936126>
- Memon, M. A., Ting, H., Cheah, J. H., Thurasamy, R., Chuah, F., & Cham, T. H. (2020). Sample size for survey research: Review and recommendations. *Journal of Applied Structural Equation Modeling*, 4(2), 1-20. [http://doi.org/10.47263/JASEM.4\(2\)01](http://doi.org/10.47263/JASEM.4(2)01)
- Miranda, S., Cunha, P., & Duarte, M. (2021). An integrated model of factors affecting consumer attitudes and intentions towards youtuber-generated product content. *Review of Managerial Science*, 15(1), 55-73. <https://doi.org/10.1007/s11846-019-00370-3>
- Mohammed, A. H., Blebil, A., Dujaili, J., & Hassan, B. A. R. (2021). Perception and attitude of adults toward cosmetic products amid COVID-19 pandemic in Malaysia. *Journal of Cosmetic Dermatology*, 20(7), 1992-2000. <https://doi.org/10.1111/jocd.14147>
- Morimoto, M., & La Ferle, C. (2008). Examining the influence of culture on perceived source credibility of Asian Americans & the mediating role of similarity. *Journal of Current Issues & Research in Advertising*, 30(1), 49-60. <https://doi.org/10.1080/10641734.2008.10505237>
- Muda, M., & Hamzah, M. I. (2021). Should I suggest this youtube clip? The Impact of UGC source credibility on eWOM and purchase intention. *Journal of Research in Interactive Marketing*, 15(3), 441-459. <https://doi.org/10.1108/JRIM-04-2020-0072>
- Munnukka, J., Uusitalo, O., & Toivonen, H. (2016). Credibility of a peer endorser and advertising effectiveness. *Journal of Consumer Marketing*, 33(3), 182-192. <https://doi.org/10.1108/JCM-11-2014-1221>
- Nafees, L., Cook, C. M., Nikolov, A. N., & Stoddard, J. E. (2021). Can social media influencers (SMI) power influence consumer brand attitudes? The mediating role of perceived SMI credibility. *Digital Business*, 1(2), Article 100008. <https://doi.org/10.1016/j.digbus.2021.100008>
- Najar, A. H., & Rather, H. A. (2021). Mediating role of guest's attitude toward the impact of UGC benefits on purchase intention of restaurants; Extending social action and control theories. *Journal of Foodservice Business Research*, 24(3), 249-273. <https://doi.org/10.1080/15378020.2020.1842958>
- Ohanian, R. (1990). Construction and validation of a scale to measure celebrity endorsers' perceived expertise, trustworthiness, and attractiveness. *Journal of Advertising*, 19(3), 39-52. <https://doi.org/10.1080/00913367.1990.10673191>
- Oumlil, A. B., & Balloun, J. L. (2019). Millennials' attitude toward advertising: An international exploratory study. *Young Consumers*, 21(1), 17-34. <https://doi.org/10.1108/YC-10-2018-0865>
- Pornpitakpan, C. (2004). The persuasiveness of source credibility: A critical review of five decades' evidence. *Journal of Applied Social Psychology*, 34(2), 243-281. <https://doi.org/10.1111/j.1559-1816.2004.tb02547.x>
- Ramadanty, S., Muqarrabin, A. M., Nita, W. A., & Syafganti, I. (2020). Examining the effect of persuasive message of beauty vloggers on

- information acceptance of eWOM and purchase intention: The study of consumers of beauty products in Jabodetabek, Indonesia. *Pertanika Journal of Social Sciences and Humanities*, 28(2), 763-775.
- Ramayah, T., Cheah, J., Chuah, F., Ting, H., & Memon, M. A. (2018). *Partial least squares structural equation modeling (PLS-SEM) using SmartPLS 3.0: An updated guide and practical guide to statistical analysis* (2nd ed.). Pearson.
- Ringle, C. M., Sarstedt, M., Mitchell, R., & Gudergan, S. P. (2020). Partial least squares structural equation modeling in HRM research. *The International Journal of Human Resource Management*, 31(12), 1617-1643. <https://doi.org/10.1080/09585192.2017.1416655>
- Ringle, C. M., Wende, S., & Becker, J.-M. (2022). *SmartPLS 4*. <http://www.smartpls.com>
- Schouten, A. P., Janssen, L., and Verspaget, M. (2020). Celebrity vs. influencer endorsements in advertising: The role of identification, credibility, and product-endorser fit. *International Journal of Advertising*, 39(2), 258-281. <https://doi.org/10.1080/02650487.2019.1634898>
- Shoukat, M. H., Selem, K. M., & Shah, S. A. (2023). How does social media influencer credibility blow the promotional horn? A dual mediation model. *Journal of Relationship Marketing*, 22(3), 172–201. <https://doi.org/10.1080/15332667.2023.2197767>
- Simons, H. W., Berkowitz, N. N., & Moyer, R. J. (1970). Similarity, credibility, and attitude change: A review and a theory. *Psychological Bulletin*, 73(1), 1-16. <https://doi.org/10.1037/h0028429>
- Sokolova, K., & Kefi, H. (2020). Instagram and YouTube bloggers promote it, why should I buy? How credibility and parasocial interaction influence purchase intentions. *Journal of Retailing and Consumer Services*, 53, Article 101742. <https://doi.org/10.1016/j.jretconser.2019.01.011>
- Sparkman Jr, R. M., & Locander, W. B. (1980). Attribution theory and advertising effectiveness. *Journal of Consumer Research*, 7(3), 219-224. <https://doi.org/10.1086/208810>
- Statista. (2023a). *Share of people who followed social media influencers Malaysia 2023*. <https://www.statista.com/statistics/1200602/malaysia-share-of-people-following-influencers/>
- Statista. (2023b). *Effectiveness of influencers worldwide 2021, by industry*. <https://www.statista.com/statistics/1275239/effectiveness-influencers-worldwide/>
- Statista. (2024). *TikTok: distribution of global audiences 2024 by age and gender*. <https://www.statista.com/statistics/1299771/tiktok-global-user-age-distribution/>
- Suciu, P. (2020). *Social media influencers-still worth the money*. Forbes. <https://www.forbes.com/sites/petersuciu/2020/05/29/social-media-influencers-still-worth-the-money/?sh=1940a19663e5>
- Suwandee, S., Surachartkumtonkun, J., & Lertwannawit, A. (2020). EWOM firestorm: Young consumers and online community. *Young Consumers*, 21(1), 1-15. <https://doi.org/10.1108/YC-03-2019-0982>
- Taillon, B. J., Mueller, S. M., Kowalczyk, C. M., & Jones, D. N. (2020). Understanding the relationships between social media influencers and their followers: The moderating role of closeness. *Journal of Product & Brand Management*, 29(6), 767-782. <https://doi.org/10.1108/JPB-03-2019-2292>
- Till, B. D., & Shimp, T. A. (1998). Endorsers in advertising: The case of negative celebrity information. *Journal of Advertising*, 27(1), 67-82. <https://doi.org/10.1080/00913367.1998.10673543>
- Umeogu, B. (2012). Source credibility: A philosophical analysis. *Open Journal of Philosophy*, 2, 112-115. <http://doi.org/10.4236/ojpp.2012.22017>
- Van der Walddt, D. L. R., Van Loggerenberg, M., & Wehmeyer, L. (2009). Celebrity endorsements versus created spokespersons in advertising: A survey among students. *South African Journal of Economic and Management Sciences*, 12(1), 100-114. <https://doi.org/10.4102/sajems.v12i1.263>
- Verma, D., & Dewani, P. P. (2020). eWOM credibility: A comprehensive framework and literature review. *Online Information Review*, 45(3), 481-500. <https://doi.org/10.1108/OIR-06-2020-0263>

- Vrontis, D., Makrides, A., Christofi, M., & Thrassou, A. (2021). Social media influencer marketing: A systematic review, integrative framework and future research agenda. *International Journal of Consumer Studies*, 45(4), 617-644. <https://doi.org/10.1111/ijcs.12647>
- WARC. (2021). *From discovery to purchase: The role of community commerce*. <https://www.warc.com/content/article/warc-exclusive/from-discovery-to-purchase-the-role-of-community-commerce/en-gb/139665>
- Weismueller, J., Harrigan, P., Wang, S., & Soutar, G. N. (2020). Influencer endorsements: How advertising disclosure and source credibility affect consumer purchase intention on social media. *Australasian Marketing Journal*, 28(4), 160-170. <https://doi.org/10.1016/j.ausmj.2020.03.002>
- Wiedmann, K. P., & von Mettenheim, W. (2020). Attractiveness, trustworthiness and expertise—social influencers' winning formula? *Journal of Product and Brand Management*, 30(5), 707-725. <https://doi.org/10.1108/JPBM-06-2019-2442>
- Yuan, S., & Lou, C. (2020). How social media influencers foster relationships with followers: The roles of source credibility and fairness in parasocial relationship and product interest. *Journal of Interactive Advertising*, 20(2), 133-147. <https://doi.org/10.1080/15252019.2020.1769514>
- Yusliza, M. Y., Yong, J. Y., Tanveer, M. I., Ramayah, T., Faezah, J. N., & Muhammad, Z. (2020). A structural model of the impact of green intellectual capital on sustainable performance. *Journal of Cleaner Production*, 249, Article 119334. <http://doi.org/10.1016/j.jclepro.2019.119334>
- Zhu, Y., Amelina, D., & Yen, D. C. (2022). Celebrity endorsement and impulsive buying intentions in social commerce - The case of Instagram in Indonesia: Celebrity endorsement. In *Research Anthology on Social Media Advertising and Building Consumer Relationships* (pp. 1401-1419). IGI Global. <https://doi.org/10.4018/978-1-6684-6287-4.ch075>

Review Article

The Effectiveness of Blended Learning in the UAE Secondary Schools—Literature Review

Haifaa Yousef Abuhassira*, Ahmad Zabidi Abdul Razak and Kazi Enamul Hoque

Department of Educational Management, Planning, and Policy, Faculty of Education, Universiti Malaya, 50603 Kuala Lumpur, Malaysia

ABSTRACT

The worldwide view of education has experienced a significant shift due to technical improvements and the COVID-19 epidemic. The pandemic's disruption led to the adoption of contemporary technologies like blended learning and online learning by international educational institutions. Calls for converting educational material to electronic forms have arisen as there is a rising realization that conventional education must change to meet the job market's needs. The benefits of innovative and traditional education may be combined via blended learning. As a result, the primary goal of this article is to review the research article with a systematic review as an added value. PRISMA is used to guide the review process. However, three databases were used: Scopus, Web of Science, and Google Scholar. According to the articles, this study's findings investigated (1) existing knowledge gaps of blended learning; and (2) the effectiveness of blended learning within the UAE secondary schools. Nine articles were evaluated within a limited period of 2020 to 2023, two were qualitative research, five were quantitative, and two were mixed research. The findings showed the effectiveness of blended learning in UAE secondary schools; however, it needs more research, practical implementations, and experience to make blended learning successful. In addition, the issues and challenges of some factors that impact the

effectiveness of blended learning are also discussed. The results of this study constitute a valuable contribution to the existing body of scholarly knowledge and have practical implications for educational policymakers, administrators, and instructors.

Keywords: Blended learning, blended learning effectiveness, UAE secondary schools

ARTICLE INFO

Article history:

Received: 25 September 2023

Accepted: 26 August 2024

Published: 02 December 2024

DOI: <https://doi.org/10.47836/pjssh.32.4.16>

E-mail addresses:

haifaaabuhassira@gmail.com (Haifaa Yousef Abuhassira)

zabidi@um.edu.my (Ahmad Zabidi Abdul Razak)

keh2009@um.edu.my (Kazi Enamul Hoque)

*Corresponding author

INTRODUCTION

Blended learning combines traditional face-to-face teaching with online educational resources and tools (Tucker et al., 2020; Cronje, 2020). According to Hensley (2020), blended learning is a structured educational approach that allows students to have flexibility in determining the timing, location, and pace of their learning (Graham, 2021). Farrington et al. (2014) indicated that blended learning utilizes contemporary technological tools and devices to align learning objectives, content, resources, activities, and communication methods. This approach enhances knowledge acquisition, information, skills, and attitudes. Also, Ismail et al. (2020) found that blended learning supports the field of education, and it aligns with the findings of Farrington, et al. (2014) research, which suggests that it can enhance the educational process by integrating face-to-face instruction with electronic learning platforms. This approach facilitates various academic activities, such as assessments, self-directed learning, and cooperative learning. Moreover, it is grounded in the notion that students are responsible for learning through diverse educational methods.

The UAE Vision 2021 agenda included a comprehensive section on the current state of education in the UAE to elevate the UAE's education system to the highest levels and implement smart education systems, and the terms for developing the educational sector were dubbed "High-level educational system." The education agenda items said that the future years

will see a total transformation of learning and education systems, with schools and universities outfitted with smart devices and systems and curriculum, projects, and research conducted through these smart systems along with defining targets that raise students' educational levels and increase the number of secondary school graduates. "Blended learning" is one of the primary pillars supporting the educational process's quality and sustainability in the new academic year 2020–2021. Experts and officials from the state's educational institutions emphasized that the state's proactive approach and forward-thinking vision enabled the establishment of a sophisticated technical infrastructure that enabled educational institutions, whether schools or universities, to implement a variety of educational options in light of the extraordinary circumstances, noting that blended learning is an ideal option. Contributes to improving the educational system and enhancing the capabilities of all its constituents.

Our wise leadership's forward-thinking vision resulted in investment in smart learning and the establishment of modern technological infrastructure in different educational institutions, which aided in the achievement of the educational system's change toward the use of blended learning. This demonstrates that blended learning benefits both students and staff members. It adds to the enjoyment and enthusiasm of the educational process. UAE university presidents and academics gathered on June 13, 2020, for a conference titled "The

Experience of Distance Education in the Emirates.” The conference’s purpose was to discuss the crucial connection between the level of quality in intelligent education and the number of qualified teachers and educational resources. Others emphasized that traditional education was vanishing and that a national committee was required to convert traditional educational content to electronic format to keep up with labor market requirements.

However, most agreed that blended learning is the best solution because it combines the two types of education (smart and traditional). The UAE decided to adopt and implement the blended learning system. Establishing clear policies and guidelines that apply to all parties involved in the educational process, starting with the leadership of the schools and universities, moving on to the teaching staff, the students, and finally, the parents which helped to achieve it. These procedures and directives ensured that the roles and responsibilities assigned to each party were crystal clear, with a particular focus on training and rehabilitation (Abedeen, 2020). In the UAE, the implementation of recent reforms and restructuring in the past few years has emphasized the prominence of new, more collaborative forms of school goals to achieve the blended learning goals (Ministry of Education [MoE], 2020).

Despite the efforts that have been made to adopt blended learning in the UAE context, several barriers limit the complete implementation of this technique because it incorporates many pedagogical

approaches and emphasizes mastery of the art of educational administration, blended learning necessitates the leadership of highly skilled individuals with a wealth of relevant professional experience. Blended learning is not a stopgap measure for crises. Instead, it is a new transition in the education process, and the crisis of COVID-19 only expedited the emergence of this transformation. In addition to that, the UAE secondary teachers’ inability to use technology effectively, unwillingness to change, lack of confidence, and lack of available time are contributing factors. The hesitation of educators to depart from the tried-and-true practices that have become second nature to them is an example of resistance to change. (McComas, 2019).

In secondary schools, teachers cannot properly engage their students in the classroom (Coffman et al., 2007) because students at secondary schools are digital immigrants who cannot integrate new technology into their classrooms due to their non-digital cultural histories. These classes are chosen because they are necessary for full awareness when technology is used in research and knowledge, and they are more suitable for assessing the level of successful classroom interaction with blended learning. Students need more opportunities to communicate with one another and participate actively in the learning process. Most students quickly master social media platforms like Facebook, wikis, Twitter, and blogs, transforming teaching and learning in interesting new ways. However, pervasive technology causes worries among those

responsible for its upkeep and payment. Any school, regardless of size, may have unprepared students for blended or online learning.

Also, the most significant challenges will be finding the time, balancing student expectations with school culture, and satisfying their desire to experiment with new teaching methods (Cruywagen et al., 2020; Picciano., 2011) found that performance expectations and the learning environment impacted Blended Learning students' satisfaction. Students say that flexibility makes it harder to communicate with teachers and classmates (Bouilheres et al., 2020). Blended Learning may isolate students, primarily if teachers do not support social networking and community formation (Borup et al., 2020). Blended learning lets students review and study again. Bouilheres et al. (2020) also found that introverted students favored integrated learning. Students are more inclined to accept if they have spent time learning about new technology and made industry ties (Venkatesh et al., 2014). Blended Learning must promote social interaction and an effective learning environment (Boelens et al., 2017). Blended learning outperforms conventional schooling. Thus, Khader (2016) wanted to study it. Many studies, such as (Alzobun, 2020; Rababa, 2021; Kumar et al., 2021), have stressed the necessity of adopting blended learning to teach students (Fauziyaah et al., 2019).

On the other hand, despite previous studies that succeeded in extracting the success of blended learning, instructing in

blended environments can open the door to new risks; the students are revolutionizing learning in thoroughly new and intriguing ways. Also, the extensive availability of technology causes concern among the stakeholders responsible for its ongoing maintenance and payment. In addition, just as at any school, regardless of its size, there is always the possibility that some students need more time to be prepared for blended learning. Students with difficulty with self-efficacy, managing time, preparing for their education, and learning independently may encounter challenges. Therefore, the most considerable difficulties for teachers who are open to the idea of a course that uses technology as a medium will be finding the time, juggling the expectations of the students, fitting in with the school's dominant culture, and satiating their desire to try out novel teaching strategies. (Picciano, 2011). To achieve these objectives, the study endeavors to address the two most important questions:

1. Is Blended Learning effective in UAE secondary schools?
2. What blended learning areas are least explored in UAE secondary schools?

The research will improve our understanding of organizational environmental needs. Blended Learning will increase classroom participation. Blended learning helps to explain contradictory research findings. Thus, researchers may be encouraged to conduct additional studies and compare their results to new and

ongoing research in other fields. The findings also assist decision-makers, principals, supervisors, curriculum officers, and training and professional development administrators in comprehending teachers' Blended Learning challenges. It is possible to devise and implement solutions. This research may assist public school administrators in developing Blended Learning assessment methods. They also create grading rubrics. This research may aid instructors in enhancing their instructional practices, implementing blended learning effectively, and selecting the most appropriate technology for the new blended learning curriculum. Blended education can customize information for students, instructors, and administrators of all educational systems; make education accessible to anyone, anywhere, and at any time; reconcile the digital divide between Blended Learning practices; and integrate Blended Learning into the curriculum. Students can navigate the curriculum and communicate with instructors via email, group study sessions, and other means. Teachers may assist students with preparing scientific materials and group study.

METHODOLOGY

The primary objective of this study is to evaluate the effectiveness of blended learning and the level of blended learning in the context of UAE secondary schools and apply this knowledge to future directions. Depending on the factors of the study, exhaustively investigating, acquiring, and evaluating the critical information yields

reform proposals that can be implemented. The following criteria were searched for the study to be included in the review: (1) studies published between 2020 and 2023 which is the period when blended learning was the basis of learning in the UAE due to the presence of the COVID-19 pandemic, (2) studies that investigated the blended learning levels, and blended learning effectiveness (3) studies that utilized either one or both quantitative and qualitative approaches, (4) primary studies, (5) peer-reviewed and literature studies, (6) studies related to secondary schools, and (8) studies that were published in the UAE context. We excluded studies that developed models or evaluated measuring equipment because we wanted to comprehend the empirical examination of blended learning effectiveness. Accordingly, we did not consider studies that (1) were not conducted in primary, middle school, or college (2) review articles, (3) published before 2020, and (4) had results that were not specific to blended learning levels or blended learning effectiveness. It is important to note that this review only focused on studies published in the recent four years to ensure the relevance of the constructs and their relationships, issues surrounding the constructs, and the identification of current findings and methodological approaches. This review scoured relevant databases to locate all pertinent literature on the effectiveness of blended learning. Discuss sampling, inclusion and exclusion, and data analysis. Searching Technique This systematic literature review employs

“blended learning” and “effectiveness of blended learning.”

The authors then systematically investigated the literature on the effectiveness of blended learning after the 2020 COVID-19 pandemic-induced change in general instruction and learning methods, which is crucial. Utilizing search strategies, pertinent research papers that met the study’s objectives were located. Use the Web of Science, Scopus, and Google

Scholar to find relevant scholarly articles. The three most prominent social science databases are listed below. “Effectiveness of blended learning” was the primary focus of the investigation. These keywords were used to search each database for integrated learning effectiveness studies. Since peer-reviewed publications are more credible scientific sources, they were our study selection criterion.

Table 1
Setting the screening range: Inclusion and exclusion criteria

Inclusion Criteria	Exclusion Criteria
<ul style="list-style-type: none"> • Empirical research examines the level of blended learning and the effectiveness of blended learning • Research published in 2020–2023 • Research in secondary schools • Research in the UAE context 	<ul style="list-style-type: none"> • Research, not empirical studies, not research publications, not conference papers, not books, not literature reviews • Research published before 2020 • Research not primary and middle schools • Research is not in the UAE context

Source: Authors’ work

Critical Appraisal

The selection of studies is one of the most important aspects of a systematic literature review (Farooq et al., 2018; Salam et al., 2017). Taking into consideration the recommendations of Moher et al. (2009), we devised a comprehensive selection procedure comprised of the following three steps:

1. Examining the titles of all retrieved research articles for compliance with the inclusion criteria described previously
2. Examining the abstracts and eligibility of the initially selected articles

3. Evaluating the complete comprehensive text for final inclusion by determining its suitability and compatibility with our research objectives

Initially, three databases (Web of Science, Scopus, and Google Scholar) yielded nearly 230 results. After eliminating duplicates from all three databases, nearly 113 unique articles remained. After the title and abstract screening, 47 articles were retained for full-text review, which were also relevant to the study’s objectives. In this context, studies were categorized according to their aims and objectives. In addition, we utilized various data analysis

techniques for each cluster to answer our previously formulated research questions. Due to a variety of unavoidable factors, including non-operational positions of blended learning, a lack of emphasis on the efficacy of blended learning, vague and general discussion, non-compliance with our inclusion criteria, and a lack of online full-text documents, some articles were excluded during the full-text screening process, the first criterion in this SLR is that the author has set the year of publication within four years, referring to the period from 2020 to 2023. The mature study concept discussed by several scholars led to the selection of this year's range. According to Kraus et al. (2020), if the research context faces a lack of studies, the timeline or year of publication of journal articles should be increased again to avoid obstructed research questions. Following that, SLR restricts the type of publication to research articles only.

Third, the languages for the selected research articles were only Arabic and English to avoid confusion, which increased the time and cost for reviewing the selected article (Linares-Espinós et al., 2018). Fourth, the inclusion criteria for this SLR are limited to the UAE context to ensure a better understanding and comprehension, particularly for the effectiveness of blended learning in education. Finally, after screening the research articles from the database, those that do not meet the listed criteria will be rejected, while those that do will be kept. As a result, nine articles were retained, two were qualitative research, five were quantitative, and two studies were mixed

research (quantitative and qualitative) that met the inclusion criteria. Using Moher et al.'s (2009) suggested reporting items for systematic reviews and meta-analyses (PRISMA), we devised a search strategy for a systematic literature review (Figure 1).

Analysis Approach

Each cluster was subjected to implementing a unique content and theme data analysis technique, for the first cluster, content, and topic studies were conducted to summarize the research expanding the efficacy of blended learning in numerous academic fields and its evolving challenges. The second cluster of papers was subjected to the content analysis method to evaluate the efficacy of integrated learning.

Following the evaluators' assessment of the article's quality, the follow-up action will perform data extraction and analysis. The ultimate focus of this study literature review is to conduct a survey that utilizes study data that discusses blended learning, and the effectiveness of blended learning among UAE secondary schools. In this regard, this data extraction effort will concentrate on three main elements: abstract, the study findings, and discussion written in the research article. However, if a more detailed explanation is needed, data extraction will involve other parts of the study. As an outcome, given that the articles involve a variety of different designs, such as quantitative type studies, qualitative type studies, and mixed-method type studies, a good synthesis for data analysis is a qualitative synthesis approach

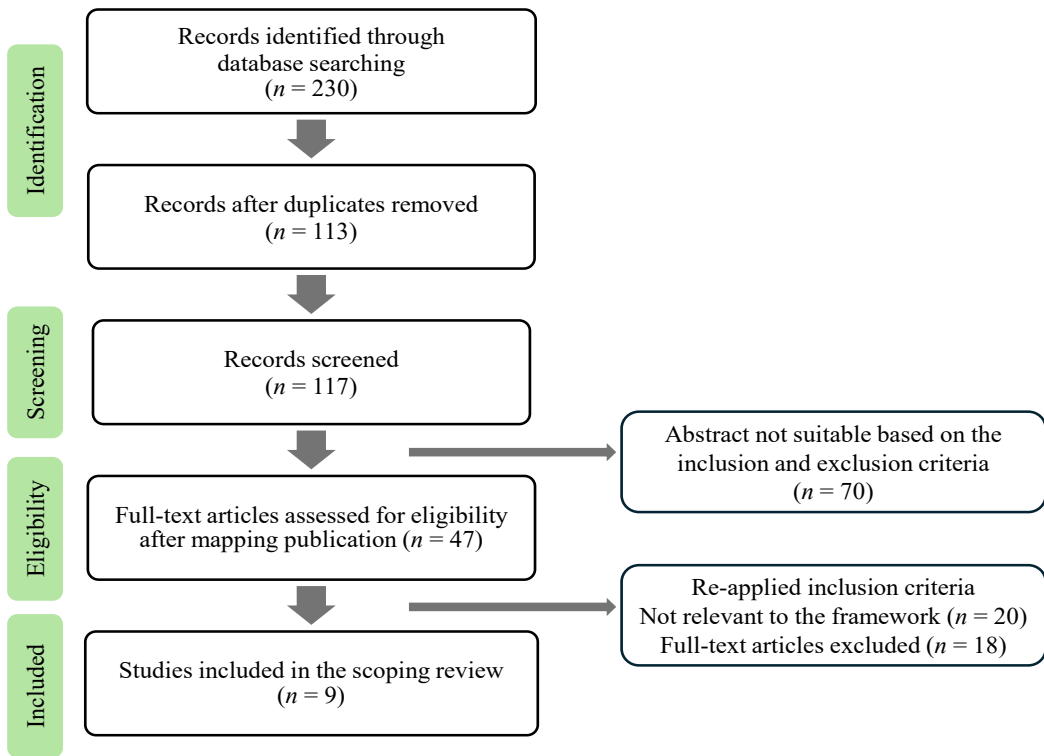


Figure 1: Flowchart of the study selection process
Source: Authors' work

for studies with a variety of different designs (Whittemore & Knafl, 2005). Correspondingly, thematic analysis is the most appropriate qualitative synthesis because it will obtain a clear picture through the data analysis process based on journal articles with various design types (Flemming et al., 2018). All extraction data will be categorized into each theme based on their similarities to obtain the appropriate theme in this study literature review. As a result, three themes were identified: (i) blended learning, (ii) the effectiveness of blended learning, (iii) blended learning levels, and (iv) UAE schools. All members of the study agreed that the four themes illustrated in the

table below are appropriate for this study's literature review (Table 2).

FINDINGS

We summarize studies on blended learning in UAE secondary schools by discussing this study's main goals and research questions: (1) Is Blended Learning effective in UAE secondary schools? (2) What blended learning areas are least explored in UAE secondary schools?

To address this issue, we reviewed secondary school blended learning effectiveness studies and included researchers' key results and challenges when combining online and face-to-face

Table 2

Data extraction and analysis for the nine articles

Author and year	Research theme	BL	EBL	BLL	UAESS
Diabat and Aljallad (2020)	QNR	√	√	√	√
Minhas et al. (2021)	QLR		√		√
Al-Noursi (2021)	QNR	√	√		√
ElSayary (2021)	QLR	√		√	√
Alsalmi et al. (2021)	QNR		√		√
Alderbashi and Moussa (2022)	QNR	√			√
Tong et al. (2022)	QNR		√	√	√
Lhafra and Abdoun (2023)	MR	√			
El-Khouly (2023)	MR	√			

Note: QNR = Quantitative Research, QLR = Qualitative Research, MR = Mixed Research., BL = Blended Learning, EBL= Effectiveness of Blended Learning. BLL= Blended Learning Level, UAESS = United Arab Emirates Secondary Schools.

Source: Authors' work

learning. Many academics have conducted systematic assessments of blended learning's effectiveness. The authors will use blended learning efficacy data from the last decade to begin the systematic assessment of this study literature review.

Blended Learning Definition

The first theme in this study literature review is the definition of blended learning, which is defined that blended learning has evolved along with technological advancements and how we apply these within the educational context (Minhas et al., 2021). According to Diabat and Aljallad (2020), blended learning is a curricular teaching method that combines in-person instruction with online learning. Abdel Nouri (2023) defined it as interweaving face-to-face instruction with online technologies. Therefore, blended learning combines online digital media with traditional classroom methods. It requires

the physical presence of both teacher and student, with some element of student control over time, place, path, or pace. Since there are many widely recognized definitions of blended learning in literature, it's important to note that the field is constantly evolving in tandem with pedagogical approaches and educational technology. For this reason, blended learning can be thought of as an adaptive and flexible strategy that employs a range of teaching techniques to meet the needs and preferences of students (Jenkins et al., 2011).

Blended Learning Effectiveness

Blended learning's effectiveness depends on the student's performance. Researchers worldwide have studied blended learning efficiency elements and interactions since its inception. Due to rapid growth, increased need for productivity, innovation, creativity, and changing social needs, blended learning

is a good predictor of future generations. Because of this, “blended learning” has been researched for almost two decades and is a hot study subject that may spur innovation. This comprehensive literature study provides data for intuitive synthesis and in-depth analysis.

While there has been a surge in the use of blended learning approaches, there is a lack of research on their effectiveness in the UAE context (Bailey & Smith, 2013). Diabat (2020) examined how blended learning affected students’ academic performance and reflective thinking in the UAE. The study included two groups of students from Al-Andalus Private Academy in Alain City. The participants were split into two groups: 25 students who received blended learning instruction and 23 who received conventional education. The research showed that the experimental group had higher reflective thinking scale ratings. Finally, the study underlines the importance of mixed learning in Islamic education.

Alsalmi et al. (2021) investigated how blended learning affects Ajman statistics and Bluman students’ academic performance. This study employed a quasi-experimental design. The study comprised 268 students divided into two groups: an experimental group ($n = 135$) that employed blended learning and a control group ($n = 133$) that received traditional education. Results showed that the results of the experimental group of students varied by gender, favoring females. Students scored higher in the fourth academic year, indicating that the academic year had an effect. However, the data

analysis showed no statistically significant differences between students by institution affiliation. The study advises implementing blended learning across educational fields.

Aldbashi and Moussa (2022) examined the usefulness of e-mind mapping in blended learning scientific courses in Emirati private secondary schools. The inquiry focused on pupils. The study included descriptive, analytical, and quantitative methods. The researchers self-designed a survey based on earlier studies. The above analyses were published in peer-reviewed journals. The survey forms were uploaded to Google Forms. Researchers employed purposive sampling. The researchers distributed the survey to 400 students at five UAE private secondary schools. The researchers utilized descriptive statistics. The study found that e-mind mapping and blended learning in Emirati private secondary schools’ scientific courses are effective. This method encourages student innovation and boosts cognitive capacities. It aids pupils in self-directed learning. Helping students improve their writing skills. The researchers suggest teaching educators how to generate electronic mind maps using various software packages.

They also explored COVID-19 with Tong et al. (2022). Remote learners will find blended learning advantageous, increasing learner engagement. The best results for instructors and students are attained by optimizing pedagogical techniques and integrating online and in-person teaching modalities. This study examines the flex model of blended learning in teaching the

mathematics subtopic of coordinates in the plane to improve students' academic performance, self-directed learning, and learning attitudes. A quasi-experimental study compared the academic performance, self-study skills, and learning attitudes of 46 students in the control class who were taught conventionally and 44 students in the experimental group who were trained blended. This research gathered pre- and post-test results, observations, and a student opinion poll. SPSS and qualitative methodologies were used to analyze this data.

The study found that blended learning improves academic performance in the experimental group compared to the control group. An independent t-test of the two groups' post-test findings supports this conclusion. Observations and student opinion surveys showed that blended learning improved academic achievement, self-study abilities, learning attitudes, and student involvement with instructors. Due to timing constraints, some experiment students were unable to progress. However, the study's tiny sample size may have restricted its applicability to a broader population. Therefore, further study is needed to improve instructional approaches and educational results across blended learning modalities. Expanding the scope of blended learning studies in other academic areas or increasing the sample size may also be helpful.

Factors Impact the Effectiveness of Blended Learning

Few empirical data exist on teachers' perspectives on these topics. Minhas' (2021) qualitative study employed focus groups to get teachers' perspectives on blended learning approaches. The research found three main themes: professional advancement, student accomplishment, and blended courses. The research also finds that self-directed learning and informal communities of practice influence perceptions and improve effectiveness. The teachers asserted that it influenced student achievement most. This study may help schools enhance student experiences through blended learning. Al-Noursi (2021) found that the teacher and student must be present in a traditional classroom. Therefore, the online environment is only partially exclusive. Mixed learning methods increase education and performance. ElSayary (2021) analyzes teachers' opinions and practices in applying reflective practice to STEM teaching in blended learning. The research began before the COVID-19 lockdown and lasted during the quarantine until the semester ended. The reflective practice paradigm combined transformational and experiential learning theories to guide the study. The sequential mixed-method research collected and analyzed quantitative and qualitative data. The qualitative data collection comprised Zoom-based semi-structured interviews with teachers. According to studies, after the COVID-19 epidemic, teachers' perceptions and instructional techniques moved toward future-oriented learning and essential skills.

Despite attempts, many educational institutions still provide blended learning as an alternative. The COVID-19 epidemic has proven the necessity for blended learning to sustain educational continuity. Blended learning is a realistic way to combine the advantages of in-person teaching with remote learning, according to several studies on COVID-19 and educational systems. This learning approach has limited application choices. Lhafra et al. (2023) present a hybrid learning approach integrating collaborative work and intelligent learner role allocation. This method aids adaptive learning in a mixed-learning environment. The proposed solution emphasizes active learning via collaborative effort using the Naïve Bayes algorithm and Belbin theory. Collaborative work helps balance in-person and remote learning by engaging and motivating students. Belbin hypothesizes that this study's results indicate an appropriate location for each participant. This cognitively engaging assignment encourages students to study actively rather than passively. El Khoully (2023) research examines students, teachers, and administrators' views on blended learning. The study examined the effects of blended learning on middle and high school students in a UAE private school using mixed approaches. This study included 60 students who completed a questionnaire and were interviewed. The poll invited 18 teachers. Additionally, teachers with various blended learning teaching expertise were interviewed. The study compared teachers' and students' views on blended learning to achieve its goals. The data analysis showed

that teachers liked blended learning, but students did not. The study found that students encountered multiple issues that impacted their academic and emotional progress.

While there has been a surge in the use of blended learning approaches, there is a lack of research on their effectiveness in the UAE context (Bailey & Smith, 2013). As a result, the influence of these techniques on student learning results, teaching practices, and overall learning experiences in the area remains largely unexplored. To better understand the advantages and difficulties of implementing blended learning in the United Arab Emirates, as well as to devise tactics to enhance its efficacy within this distinct educational setting, further research is required. Also, Blended learning could accomplish several goals and make education accessible to whoever, at any time and place, supporting bridging the digital divide between blended learning practices and merging blended learning into the curriculum (Alsafadi et al., 2020). Individually, every student can navigate the educational material and the curriculum and interact with professors using various modes of communication, such as e-mail and group study sessions. Teachers may carry out the process of guiding and directing students via group study sessions and planning and producing their very own scientific materials.

Despite the efforts that have been made to adopt remote education, several barriers limit the complete implementation of this technique. These challenges include

incorporating many pedagogical approaches and emphasizing mastery of the art of educational administration; blended learning necessitates the leadership of highly skilled individuals with a wealth of relevant professional experience. Also, blended learning is not a stopgap measure to use in crises. Instead, it is a new transition in the education process, with the crisis of COVID-19 only expediting the emergence of this transformation. Blended learning necessitates technical prerequisites, including adequate infrastructure, the utilization of diverse information sources by students, virtual classes alongside traditional ones to facilitate mutual reinforcement, the availability of e-learning management software, and access to tools and resources for conducting simulation experiments. Besides, technical difficulties, financial burdens, and resistance from particular schools and teachers to adopting contemporary technology are all factors (Najadat & Alomari, 2020). Other factors related to students' need for more opportunities to communicate with one another and participate actively in the learning process.

Moreover, the teachers' inability to use technology effectively, unwillingness to change, lack of confidence, and lack of available time are contributing factors. The hesitation of educators to depart from the tried-and-true practices that have become second nature to them is an example of resistance to change (McComas, 2019).

DISCUSSIONS

Blended learning in UAE secondary schools can significantly enhance educational outcomes by addressing local challenges and catering to student needs (Lemana II et al. 2023). Government support is crucial in implementing effective blended learning strategies, as seen in the UAE's initiatives to incorporate smart learning environments in education systems (Efstratopoulou, 2024). Challenges such as technological difficulties, low student engagement, and academic dishonesty must be overcome to create engaging and interactive online learning environments (Lemana II et al. 2023). Additionally, focusing on the specific needs of students, including those with disabilities, is essential for successful implementation, as highlighted in the importance of supporting students with disabilities during e-learning experiences (Alhammadi, 2024). By leveraging government backing and tailoring approaches to local contexts, UAE schools can better prepare students for the demands of a globalized economy, ensuring their readiness for future challenges. In addition to that, The incorporation of blended learning into the UAE educational system faces challenges from parents and teachers who are used to conventional teaching techniques. A careful balance is needed to protect cultural values and academic standards (Efstratopoulou, 2024).

Furthermore, to make blended learning effective and valuable, schools must emphasize the importance of addressing the specific challenges faced by teachers, including the necessity

for professional development in digital literacy and instructional design. Teachers' perspectives on implementing blended learning are crucial for understanding the support and resources required to achieve successful outcomes (Alawadhi, 2024). Studies have shown that while blended learning offers benefits such as increased flexibility and accessibility, teachers also encounter barriers like increased workload and technical issues (Alawadhi, 2024). Therefore, providing adequate professional development opportunities and support for teachers in developing their digital literacy skills and instructional design capabilities is essential for the effective implementation of blended learning in UAE secondary schools.

To provide a complete framework, this research needs to be extended. Further study is needed to provide a universal paradigm for integrated learning effectiveness. Despite blended learning initiatives, many barriers limit extensive research:

1. This study examines secondary school blended learning's effectiveness.
2. This research is UAE-specific.
3. The COVID-19 pandemic hastened this transition. Hence, this study covers 2020–2023.

The study needs additional publications. Despite the author's decade-long investigation, defining and evaluating all the components takes work. This research must also include suggestions for blended learning efficacy. Blended learning blends various types of education into the educational

process, requiring significant expertise and experience. We used secondary data from previous investigations to achieve this study's goals. Future integrated learning research may survey essential individuals to acquire primary data. As indicated, this research was confined to a literature review, making empirical and cross-cultural assessment unfeasible. Future studies may assess integrated learning's efficacy across cultures. Longitudinal studies must assess integrated learning's long-term impacts.

CONCLUSION

Despite the limitations mentioned earlier, the results of this study have made a substantial contribution to the corpus of knowledge by integrating the diverse and extensive literature on integrated learning interactions. This study provides a comprehensive literature review on emergent blended learning to comprehend its critical role in schools. The findings indicate that integrated learning interactions provide reciprocal benefits for all parties involved by substantially enhancing the educational community. This study's findings also revealed that integrated learning interaction was extensively utilized in various academic disciplines and that many academics acknowledged its efficacy. In addition, an evaluation of the blended learning interaction frameworks currently utilized by stakeholders revealed that some of these frameworks require additional blended learning interaction components to implement classroom engagement effectively. The essential impact of

integrated learning interactions must thus be investigated further.

Limitations

Blended learning has emerged as a prominent subject of investigation, prompting the author to comprehensively examine and evaluate the prevailing research patterns over the last decade. However, it is essential to acknowledge that this systematic study has inherent limitations. The author has only looked at factors influencing the effectiveness of blended learning between 2020 and 2023, which limits the temporal scope of the current systematic review. Consequently, the study needs to analyze other periods comprehensively. The second limitation is the limited quantity of papers examined. Despite the author's decision to extend the study's duration to include ten years, not all aspects that have been investigated can inevitably be categorized and thoroughly analyzed. Simultaneously, it should be noted that the author's examination is confined to secondary schools, excluding schools at other educational levels from consideration. It is noteworthy to mention that the writers conducted a thorough screening of significant elements throughout the analysis and summary process.

Implication

Subsequent research endeavors about the efficacy of blended learning may revise the temporal framework, considering the constraints elucidated by the author of the plea above. In a society characterized by perpetual development and change, the

requisites and regulations of education are also susceptible to ongoing modifications and adaptations. In the given setting, the subjective condition of blended learning will consistently engender processes and phenomena of adjustment and transformation. Hence, the researchers want to investigate the concept of continuous exploration. This study provides an overview that can serve as a reference point for future occurrences in school organizations, specifically regarding classroom interaction in the blended learning environment. It aims to evaluate and analyze the effectiveness of blended learning by examining the influencing factors identified in this study. The findings can offer insights for potential improvements and contribute to a better understanding of blended learning practices and strategies. Simultaneously, secondary education administrators must exhibit solid managerial skills to support and assist educators in enhancing their blended learning methodologies.

Firstly, it is recommended that educational institutions offer differentiated degrees of support for teachers at different phases of their careers, such as providing instructional guidelines for beginner educators and facilitating opportunities for professional growth. In addition, governmental agencies and educational establishments must collaborate to promote the advancement of initiatives and secure funds for the comprehensive enhancement of campus infrastructure and technological resources. This collaboration is crucial to providing optimal support for educators'

instructional endeavors and scholarly research undertakings. It is essential to guarantee the proper distribution of students and teaching assignments, the employment of skilled rookie instructors, and the rehiring of exceptional professors to ensure the effective execution of educational activities.

ACKNOWLEDGMENTS

I grateful to all those with whom I have had the pleasure of working during this study. Each of my Dissertation Committee members has provided extensive personal and professional guidance and taught me much about scientific research and life in general.

REFERENCES

- Abedeen, A. S. (2020, July 4). Blended learning, the best solution. *Alkhlaej Newspaper*.
- Abdel Nouri, A. (2023). The importance of e-learning and its modern technologies in improving the educational-learning process. *Ataa Journal for Studies and Research*, 4, 12-31.
- Al-safadi, H. A., Shgair, M. S. A., & Al Qatawnih, K. S. (2023). The effectiveness of designing e-learning environment based on mastery learning and artificial intelligence on developing english speaking skills among tenth graders in Palestine. *IUG Journal of Educational & Psychological Studies*, 31(1), 475-507. <https://doi.org/10.33976/IUGJEPS.31.1/2023/22>
- Alawadhi, A. (2024, March). A case study exploring ESL instructors' perspectives of blended learning in UAE higher education. In *BUID Doctoral Research Conference 2023: Multidisciplinary Studies* (pp. 110-117). Springer Nature. https://doi.org/10.1007/978-3-031-56121-4_11
- Aldbashi, K. Y., & Moussa, M. K. (2022). Effectiveness of employing the e-mind mapping strategy in scientific courses: Adopting the blended learning approach at Emirati private preparatory schools. *Journal of Curriculum and Teaching*, 11(4), 159-170. <https://doi.org/10.5430/jct.v11n4p159>
- Alhammadi, M. M. (2024). E-learning for college students with disabilities in the UAE: Challenges and solutions. In G. Bennet & E. Goodall (Eds.), *The Palgrave encyclopedia of disability* (pp. 1-11). Springer Nature. https://doi.org/10.1007/978-3-031-40858-8_127-1
- Alsalmi, N. R., Eltahir, M., Al-Qatawneh, S., Ouakli, N., Antoun, H. B., Abdelkader, A. F., & Al Jumaili, L. (2021). Blended learning in higher education: A study of its impact on students' performance. *International Journal of Emerging Technologies in Learning*, 16(14). <https://doi.org/10.3991/ijet.v16i14.23775>
- Alzobun, K. (2020). The efficacy of remote learning compared to direct generalization in the achievement of the class The first is secondary in Arabic in Jordan. *The Arab Journal of Specific Education*, 4(13), 201-220.
- Bailey, R., & Smith, M. C. (2013). Implementation and assessment of a blended learning environment as an approach to better engage students in a large systems design class. In *2013 ASEE Annual Conference & Exposition* (pp. 23-692). <https://doi.org/10.18260/1-2--19706>
- Borup, J., Graham, C. R., West, R. E., Archambault, L., & Spring, K. J. (2020). Academic communities of engagement: An expansive lens for examining support structures in blended and online learning. *Educational Technology Research and Development*, 68, 807-832. <https://doi.org/10.1007/s11423-020-09744-x>
- Bouilheres, F., Le, L. T. V. H., McDonald, S., Nkhoma, C., & Jandug-Montera, L. (2020). Defining student learning experience through blended learning. *Education and Information Technologies*, 25, 3049-3069. <https://doi.org/10.1007/s10639-020-10100-y>
- Coffman, T., Campbell, A., Heller, E., Horney, E. M., & Slater, L. P. (2007). The new literacy

- crisis: Immigrants teaching natives in the digital age. *Virginia Society for Technology in Education*, 21(6), 1-10.
- Cronje, J. (2020). Towards a new definition of blended learning. *Electronic journal of e-Learning*, 18(2), 114-121. <https://doi.org/10.34190/EJEL.20.18.2.001>
- Cruywagen, S., & Potgieter, H. (2020). The world we live in: A perspective on blended learning and music education in higher education. *TD: The Journal for Transdisciplinary Research in Southern Africa*, 16(1), 1-9. <https://doi.org/10.4102/td.v16i1.696>
- Diabat, O. M. A., & Aljallad, M. Z. (2020). The effectiveness of employing blended learning on sixth-grade students' achievements and reflective thinking skills development in Islamic education in the United Arab Emirates. *Multicultural Education*, 6(5), 216-223.
- Efstratopoulou, M., Shraim, Z., & Saleh, H. (2024). Empowering all students: Revolutionizing education with gamification, project-based learning, and inclusive support. In A. Abdallah, A. Alkaabi & R. Al-Riyami (Eds.), *Cutting-edge innovations in teaching, leadership, technology, and assessment* (pp. 54-67). IGI Global. <https://doi.org/10.4018/979-8-3693-0880-6.ch005>
- El Khouly, M. F. A. (2023). *The impact of blended learning on learners' academic performance and emotional well-being* [Master's thesis, The British University in Dubai]. ProQuest. <https://www.proquest.com/openview/d62c285a922431fdd37d471cc3a73e36/1?pq-origsite=gscholar&cbl=2026366&diss=y>
- ElSayary, A. (2021). Using a reflective practice model to teach STEM education in a blended learning environment. *Eurasia Journal of Mathematics, Science and Technology Education*, 17(2), Article em1942. <https://doi.org/10.29333/ejmste/9699>
- Farooq, M. S., Salam, M., ur Rehman, S., Fayolle, A., Jaafar, N., & Ayupp, K. (2018). Impact of support from social network on entrepreneurial intention of fresh business graduates: A structural equation modelling approach. *Education+Training*, 60(4), 335-353. <https://doi.org/10.1108/ET-06-2017-0092>
- Farrington, C. J. (2014). Blended e-learning and end of life care in nursing homes: A small-scale mixed-methods case study. *BMC Palliative Care*, 13, Article 31. <https://doi.org/10.1186/1472-684X-13-31>
- Flemming, K., Booth, A., Hannes, K., Cargo, M., & Noyes, J. (2018). Cochrane qualitative and implementation methods group guidance series—paper 6: Reporting guidelines for qualitative, implementation, and process evaluation evidence syntheses. *Journal of Clinical Epidemiology*, 97, 79-85. <https://doi.org/10.1016/j.jclinepi.2017.10.022>
- Graham, C. R. (2021). Exploring definitions, models, frameworks, and theory for blended learning research. In G. A. Picciano, C. D. Dziuban, C. R. Graham & P. D. Moskal (Eds.), *Blended learning* (pp. 10-29). Routledge. <https://doi.org/10.4324/9781003037736-3>
- Harahap, F., Nasution, N. E. A., & Manurung, B. (2019). The effect of blended learning on student's learning achievement and science process skills in plant tissue culture course. *International Journal of Instruction*, 12(1), 521-538. <https://doi.org/10.29333/iji.2019.12134a>
- Hensley, N. (2020). *Teacher perceptions of blended learning to support 21st century learners* [Doctoral dissertation, East Tennessee State University]. ProQuest. <https://www.proquest.com/openview/d7133a0e01f88181c680ce31fe153505/1?pq-origsite=gscholar&cbl=18750&diss=y>
- Ismail, H., Rahmat, A., & Emzir, E. (2020). The effect of Moodle e-learning material on EFL reading comprehension. *International Journal of Multicultural and Multireligious Understanding*, 7(10), 120-129. <https://doi.org/10.18415/ijmmu.v7i10.2069>

- Jenkins, J., Cogo, A., & Dewey, M. (2011). Review of developments in research into English as a lingua franca. *Language Teaching*, 44(3), 281-315. <https://doi.org/10.1017/S0261444811000115>
- Kenney, J., & Newcombe, E. (2011). Adopting a blended learning approach: Challenges encountered and lessons learned in an action research study. *Journal of Asynchronous Learning Networks*, 15(1), 45-57. <https://doi.org/10.24059/olj.v15i1.182>
- Khader, N. S. K. (2016). The effectiveness of blended learning in improving students' achievement in third grade science in Bani Kenana. *Journal of Education and Practice*, 7(35), 109-116.
- Kraus, S., Breier, M., & Dasí-Rodríguez, S. (2020). The art of crafting a systematic literature review in entrepreneurship research. *International Entrepreneurship and Management Journal*, 16, 1023-1042. <https://doi.org/10.1007/s11365-020-00635-4>
- Kumar, A., Krishnamurthi, R., Bhatia, S., Kaushik, K., Ahuja, N. J., Nayyar, A., & Masud, M. (2021). Blended learning tools and practices: A comprehensive analysis. *IEEE Access*, 9, 85151-85197. <https://doi.org/10.1109/ACCESS.2021.3085844>
- Lemana II, H. E., Torres, J. R. L., Cabiling, K. J. P., & Ahmad, C. V. (2023). Online teaching experiences during a global crisis: Private school teachers' narratives in the Emirates. *International Journal of Multidisciplinary: Applied Business and Education Research*, 4(9), 3197-3210. <https://doi.org/10.11594/ijmaber.04.09.12>
- Lhafra, F. Z., & Abdoun, O. (2023). Integration of adaptive collaborative learning process in a hybrid learning environment. *International Journal on Advanced Science, Engineering & Information Technology*, 13(2), 638-650.
- Linares-Espinós, E., Hernández, V., Domínguez-Escrig, J. L., Fernández-Pello, S., Hevia, V., Mayor, J., Padilla-Fernández, B., & Ribal, M. J. (2018). Methodology of a systematic review. *Actas Urológicas Españolas (English Edition)*, 42(8), 499-506. <https://doi.org/10.1016/j.acuroe.2018.07.002>
- McComas, M. E. (2019). *The impact of blended learning on measures of academic progress (MAP) based on student growth* [Doctoral's dissertation, Eastern Kentucky University]. Encompass. <https://encompass.eku.edu/etd/603/>
- Minhas, W., White, T., Daleure, G., Solovieva, N., & Hanfy, H. (2021). Establishing an effective blended learning model: Teacher perceptions from the United Arab Emirates. *SAGE Open*, 11(4), 1-11. <https://doi.org/10.1177/21582440211061538>
- Ministry of Education. (2020). *Quality education in the UAE*. <https://www.moe.gov.ae/en/abouttheministry/pages/qualityeducation.aspx>
- Moher, D., Liberati, A., Tetzlaff, J., Altman, D. G., & PRISMA (2009). Preferred reporting items for systematic reviews and meta-analyses: the PRISMA statement. *Annals of Internal Medicine*, 151(4), 264-269. <https://doi.org/10.7326/0003-4819-151-4-200908180-00135>
- Najadat, A. M., & Alomari, M. A. (2020). The extent to which teachers of Islamic education practice the competencies of using instructional technology in teaching the secondary stage in Jordan. *International Journal of Academic Research in Business and Social Sciences*, 10(6), 675-695. <https://doi.org/10.6007/IJARBS/v10-i6/7342>
- Picciano, G. B. (2011). A special issue on transitioning to blended learning. *Journal of Asynchronous Learning Networks*, 15(1). <https://doi.org/10.24059/olj.v15i1.195>
- Rababa, N. (2021). The effect of e-learning in developing high thinking skills. *International Journal of Data and Network Science*, 5(1), 43-46.
- Salam, M., Iskandar, D. N. F. A., & Ibrahim, D. H. A. (2017). Service learning support for academic learning and skills development. *Journal of Telecommunication, Electronic and Computer Engineering (JTEC)*, 9(2-10), 111-117.

- Tong, D. H., Uyen, B. P., & Ngan, L. K. (2022). The effectiveness of blended learning on students' academic achievement, self-study skills and learning attitudes: A quasi-experiment study in teaching the conventions for coordinates in the plane. *Heliyon*, 8(12), e12657. <https://doi.org/10.1016/j.heliyon.2022.e12657>
- Tucker, C. R. (2020). *Teacher engagement in high school full-release blended learning courses* [Doctoral dissertation, Pepperdine University]. ProQuest. <https://www.proquest.com/openview/987c8516f8be1085afe1bef6899bd1ed/1?pq-origsite=gscholar&cbl=44156>
- Venkatesh, V., Croteau, A. M., & Rabah, J. (2014). Perceptions of effectiveness of instructional uses of technology in higher education in an era of Web 2.0. In *2014 47th Hawaii International Conference on System Sciences* (pp. 110-119). IEEE Xplore. <https://doi.org/10.1109/HICSS.2014.22>
- Voet, M., Gielen, M., Boelens, R., & De Wever, B. (2018). Using feedback requests to actively involve assesses in peer assessment: effects on the assessor's feedback content and assessor's agreement with feedback. *European Journal of Psychology of Education*, 33, 145-164. <https://doi.org/10.1007/s10212-017-0345-x>
- Whittemore, R., & Knaf, K. (2005). The integrative review: updated methodology. *Journal of Advanced Nursing*, 52(5), 546-553. <https://doi.org/10.1111/j.1365-2648.2005.03621.x>

Improving English Speaking Proficiency Among Non-English Major Learners in Malaysia Through Mobile Language Learning Applications

Jonaline John and Yueh Yea Lo*

Department of Language and Literacy Education, Faculty of Education, Universiti Malaya, 50603, Kuala Lumpur, Malaysia

ABSTRACT

The proliferation of mobile technology has revolutionised language learning, particularly with the advent of mobile language learning applications. This qualitative study investigates the motivations, preferences, and challenges of non-English major learners in Malaysia using mobile language learning apps to improve English speaking proficiency. This study is motivated by the persistent challenge Malaysian non-English major learners encounter in attaining English-speaking proficiency due to limited practice and classroom constraints. Mobile language apps offer versatile platforms with live sessions and personalised learning, addressing these obstacles. Drawing upon the Technology Acceptance Model (TAM) 3, the research explores the participants' perceptions of usefulness, ease of use, and psychological factors influencing their acceptance of interactive language apps like Duolingo and specialised speaking-focused platforms such as Tandem. Through in-depth interviews with 20 non-English major university students, findings reveal diverse motivations driving app usage, ranging from career prospects to personal enrichment and cultural curiosity. While participants report positive impacts on pronunciation, vocabulary

acquisition, and fluency, they also encounter challenges related to pronunciation feedback accuracy, self-discipline, and the limitations of app-based instruction. Recommendations include customising app content to align with individual motivations, enhancing app features to address pronunciation feedback accuracy and motivation issues, and integrating traditional classroom instruction with mobile app-based learning for a more comprehensive language learning

ARTICLE INFO

Article history:

Received: 01 March 2024

Accepted: 25 July 2024

Published: 16 December 2024

DOI: <https://doi.org/10.47836/pjssh.32.4.17>

E-mail addresses:

janice@um.edu.my (Yueh Yea Lo)

jonalinejohn@gmail.com (Jonaline John)

* Corresponding author

experience. This study highlights the importance of accommodating non-English majors' needs in mobile language learning apps.

Keywords: Language learning applications, mobile language learning, non-English major, speaking proficiency, second language acquisition

INTRODUCTION

The contemporary landscape of English language education among non-English majors presents several pressing challenges, particularly in speaking skills acquisition. Traditional approaches often struggle to engage learners effectively, resulting in limited opportunities for authentic practice and interaction. Moreover, learners may encounter barriers such as limited access to language resources, insufficient opportunities for real-world communication, and a lack of personalised learning experiences tailored to their individual needs and preferences. In this context, mobile language learning applications are a promising solution to address these challenges and enhance the learning experience. By leveraging the ubiquity and versatility of mobile technologies, educators can overcome geographical and temporal constraints, offering learners continuous access to language learning materials and opportunities for immersive language practice. Mobile apps can provide personalised feedback, scaffolded support, and interactive learning experiences tailored to learners' proficiency levels and learning objectives. Moreover, these language learning apps facilitate self-

directed learning, empowering learners to take ownership of their learning journey and progress at their own pace. Therefore, by integrating mobile language learning apps into English language instruction, educators can create a more dynamic, engaging, and effective learning environment that fosters the development of proficient speaking skills among non-English majors.

In an age marked by the growing prevalence of mobile technology, language learning has undergone a significant transformation. The introduction of mobile language learning applications has given rise to a new era of convenience and accessibility, empowering learners to interact with foreign languages in unprecedented ways (Figueiredo, 2023; Hsu & Liu, 2023). The integration of mobile learning, which involves education through software applications, programmes, websites, or resources accessible through electronic devices, has progressively become a vital aspect of language education. It has demonstrated its efficacy in improving learners' cognitive capacity, motivation, engagement, learner autonomy, and confidence. Studies indicate that teachers extensively integrate technological tools accessible through mobile devices to motivate and engage learners (Hinze et al., 2023; Huang et al., 2023; Kukulska-Hulme & Traxler, 2019; Sung et al., 2016).

Nevertheless, access to mobile technologies is not exclusive to teachers, as learners also possess these technologies. They can effortlessly access limitless information, including online learning

materials, tutorials, or classes. In terms of speaking tasks and presentations, mobile technologies can aid learners in various ways. For example, learners can use online dictionaries to find word definitions, translate sentences into the target language, or search for information about speaking topics. Mobile technologies appear to aid second language learners in situations where formal support from a teacher is unavailable, particularly for speaking, which demands linguistic expertise in diverse aspects. With the availability of Wi-Fi access, mobile phones have exceeded their primary communication function and evolved into intelligent devices. One has the capability to transform one's smartphone into a valuable learning resource. Grant (2019) emphasised that mobile learning serves as an umbrella term encompassing learning linked with mobility. Various terms such as mobile-assisted language learning (MALL), apps, and games or gaming were introduced in the reviewed literature (Jeon, 2022).

According to Kukulska-Hulme (2010), mobile learning "is no longer in the preserve of technical experts and researchers with specialist knowledge" (p.1190). Mobile apps seamlessly integrate language with technology, offering both learners and teachers the potential benefits promised by mobile learning. This extension of learning beyond classrooms is easily accessible. As per the terms used in Kukulska-Hulme's study (2010, p. 1190), mobile apps "will contribute to the establishment of more just and equitable societies" by providing individuals with lifelong learning

opportunities, regardless of their location. In spite of the growing interest and popularity of mobile technologies in teaching and learning a second language (L2), research on m-learning's impact on speaking skills has been limited (Lin & Lin, 2019). Additionally, English language learners' choices, actual practices, and thoughts regarding mobile technologies supporting their L2 speaking remain largely unknown (Zhou & Wei, 2018). While teachers can be highly selective in choosing technologies suitable for language teaching, learners may be less skilled in choosing what is appropriate. This study acknowledges that understanding learners' current practices and perceptions of mobile technologies will promote a culture of listening to learners, enabling teachers and educators to retain their role as facilitators, offering guidance both within and outside the classroom.

Despite the increasing integration of mobile technologies into language learning contexts, there remains a conspicuous dearth of comprehensive studies focusing on the efficacy of these tools, specifically in enhancing speaking proficiency. This gap is particularly pronounced in the realm of second language acquisition, where effective communication skills are paramount. Furthermore, while there is a burgeoning interest in leveraging mobile apps for language learning, a notable disparity exists between the perspectives of educators and learners regarding the suitability and effectiveness of these tools. Thus, elucidating learners' current practices and perceptions concerning

mobile technologies is crucial in bridging this gap and fostering a more learner-centric approach to language education. By addressing these critical research gaps, this study not only aims to contribute to the existing body of knowledge but also provides valuable insights for educators and practitioners to optimise the integration of mobile learning technologies in language pedagogy. Therefore, to investigate learners' real-world usage of mobile technologies for speaking purposes, the following questions were posed:

1. What specific types of mobile language learning applications did non-English major learners in listening and speaking courses utilise to enhance their speaking skills?
2. What were the perceptions and attitudes of non-English major learners regarding the effectiveness and utility of mobile language learning applications employed as supplementary support for improving their speaking proficiency in listening and speaking courses?

LITERATURE REVIEW

Mobile Learning for Speaking Skills

Mobile learning, often referred to as m-learning, has emerged as a powerful and flexible tool for language acquisition, particularly for developing speaking skills. With the availability of smartphones and the emergence of mobile applications designed for language learning, researchers and

educators have increasingly turned their attention to the potential benefits of mobile technology in the language learning process. Primarily, mobile learning (m-learning) enhances mobility across various spaces (workplace, home, leisure venues), life domains (work, self-improvement, leisure), and timeframes (day, night, weekends) (Palalas & Wark, 2020; Sarrab et al., 2018). Hence, learners can engage in learning anytime and anywhere through handheld devices.

The second advantage of mobile learning is its commonness, being widespread and accessible when required (Al-Emran et al., 2020). Learners can personalise their learning experiences with mobile learning in their unique environments, catering to their learning needs or interests and revising as often as necessary (Kacetl & Klímova, 2019). Furthermore, mobile learning also fosters opportunities for collaborative learning, enabling learners to interact, irrespective of time and location, with each other or with the teacher (Lin et al., 2023). Research investigating the effectiveness of mobile learning applications in improving speaking proficiency has produced encouraging results. In a comprehensive study, Hwang and Fu (2019) concluded that mobile language learning applications can significantly contribute to developing speaking skills. Mobile apps frequently provide an array of interactive exercises and speaking opportunities, allowing learners to practice pronunciation, fluency, and conversational skills. Moreover, the incorporation of

technology-enhanced feedback and speech recognition features has the potential to offer immediate and personalised guidance to learners, proving advantageous in enhancing speaking accuracy (Shadiev & Wang, 2022). Motivation plays a crucial role in language learning, and mobile learning applications hold the potential to improve learner engagement and motivation. By offering learners the ability to set goals, monitor their progress, and access language materials on the move, mobile apps can contribute to sustaining learners' enthusiasm for language acquisition (Rafiq et al., 2021).

Elements of gamification, such as rewards and leaderboards integrated into numerous language learning apps, can boost learner motivation by transforming the learning process into an enjoyable and competitive experience (Karakaya & Bozkurt, 2022; Saleem et al., 2022). This facet of mobile learning is especially relevant to developing speaking skills, as sustained motivation can result in more consistent and effective practice. Mobile learning applications possess the potential to overcome some of the common barriers to language acquisition. For non-English major learners, as examined in this research, issues such as time constraints and limited access to language classes may present substantial challenges. Mobile learning facilitates flexible, self-paced study, empowering learners to incorporate language practice into their daily routines and tailor their learning to individual schedules (Karakaya & Bozkurt, 2022; Kukulska-Hulme, 2018).

Moreover, these applications frequently provide a range of language options, addressing learners' diverse interests and needs, thereby making language acquisition more inclusive and personalised (Zhang & Zou, 2022). The literature review underscores the significant potential of mobile learning applications in improving speaking skills among language learners. These applications have the potential to render language learning more effective, engaging, and accessible, concurrently addressing concerns related to motivation and individualised learning. Nevertheless, it is crucial to acknowledge that the effectiveness of mobile learning for speaking skills may be influenced by factors such as the quality of applications, learner characteristics, and the degree to which they are integrated into learners' language learning routines. This study seeks to enhance the existing literature by delving into a more profound understanding of the experiences and perspectives of non-English major learners utilising mobile language learning apps for speaking proficiency.

Studies of Mobile Language Learning Apps for English-speaking Proficiency

Over the previous year, an increasing amount of research has concentrated on mobile language learning applications and their impact on improving speaking proficiency, especially among non-English major learners (Chen et al., 2020; Elaish et al., 2019; Morgana & Kukulska-Hulme, 2021; Onal et al., 2022; Qiao & Zhao, 2023; Yeh et al., 2021; Yu et al., 2023). A noteworthy

study underscored the varied motivations prompting individuals to embrace these applications for language learning (Yu et al., 2023). The study offers insights into how career prospects, personal enrichment, cultural curiosity, and the aspiration to connect with English-speaking communities motivate learners. It underscored the importance of mobile language learning applications in accommodating this range of motivations, emphasising app developers' need to customise their offerings to resonate with individual aspirations and interests (Yu et al., 2023).

This study highlights the changing nature of language learning in the digital era and emphasises the significance of addressing diverse learner motivations. A recent investigation explored the inclinations of non-English major learners regarding mobile language learning applications and the perceived influence on their speaking skills (Qiao & Zhao, 2023). The findings demonstrated that these learners exhibited diverse preferences, encompassing gamified applications such as Duolingo to specialised platforms focusing on speaking, such as Tandem. Qiao and Zhao's (2023) study emphasised the influence of user-friendliness, gamification, and peer interaction in shaping these preferences. Furthermore, the study emphasised the favourable results communicated by learners, including enhanced pronunciation, vocabulary acquisition, and speaking fluency. Nonetheless, it also highlighted the challenges they encountered, underscoring

the necessity for ongoing development and customisation of apps to address the particular demands and preferences of learners not majoring in English.

Finally, recent research has exposed the challenges faced by learners not majoring in English in their language learning journey through mobile applications (Klimova & Polakova, 2020). The investigation recognised pronunciation as a notable obstacle, expressing concerns regarding the authenticity and accuracy of pronunciation feedback provided by mobile apps. Moreover, issues of self-discipline and motivation were pinpointed as crucial, underscoring the challenge of sustaining consistent practice and motivation when solely depending on mobile apps. The research also stressed that mobile applications cannot completely substitute traditional classroom instruction, as they might lack the depth and interactive elements provided by in-person classes (Shi, 2023). The study has emphasised the significance of offering support and resources to assist learners in overcoming these challenges, aiming for a more effective and comprehensive language learning experience for non-English major learners utilising mobile language learning apps. This study will focus specifically on the mobile language learning applications Duolingo and Tandem. These apps have been chosen due to their popularity and distinct approaches to enhancing English-speaking proficiency, providing a comprehensive understanding of their effectiveness and user experiences.

Theoretical Background

The Technology Acceptance Model (TAM) 3, depicted in Figure 1 below, serves as a theoretical framework to understand and predict users' acceptance and adoption of technology, particularly in the context of mobile language learning applications among non-English major learners in Malaysia. This model extends the original TAM by incorporating additional constructs to provide a more comprehensive

understanding of technology acceptance behaviour. The core constructs of TAM 3 include Perceived Usefulness (PU), Perceived Ease of Use (PEOU), Social Influence (SI), Facilitating Conditions (FC), Perceived Enjoyment (PE), and Behavioural Intention to Use (BIU).

Perceived Usefulness (PU) and Perceived Ease of Use (PEOU) are central to TAM 3, representing the user's perceptions of the utility and ease of use of mobile

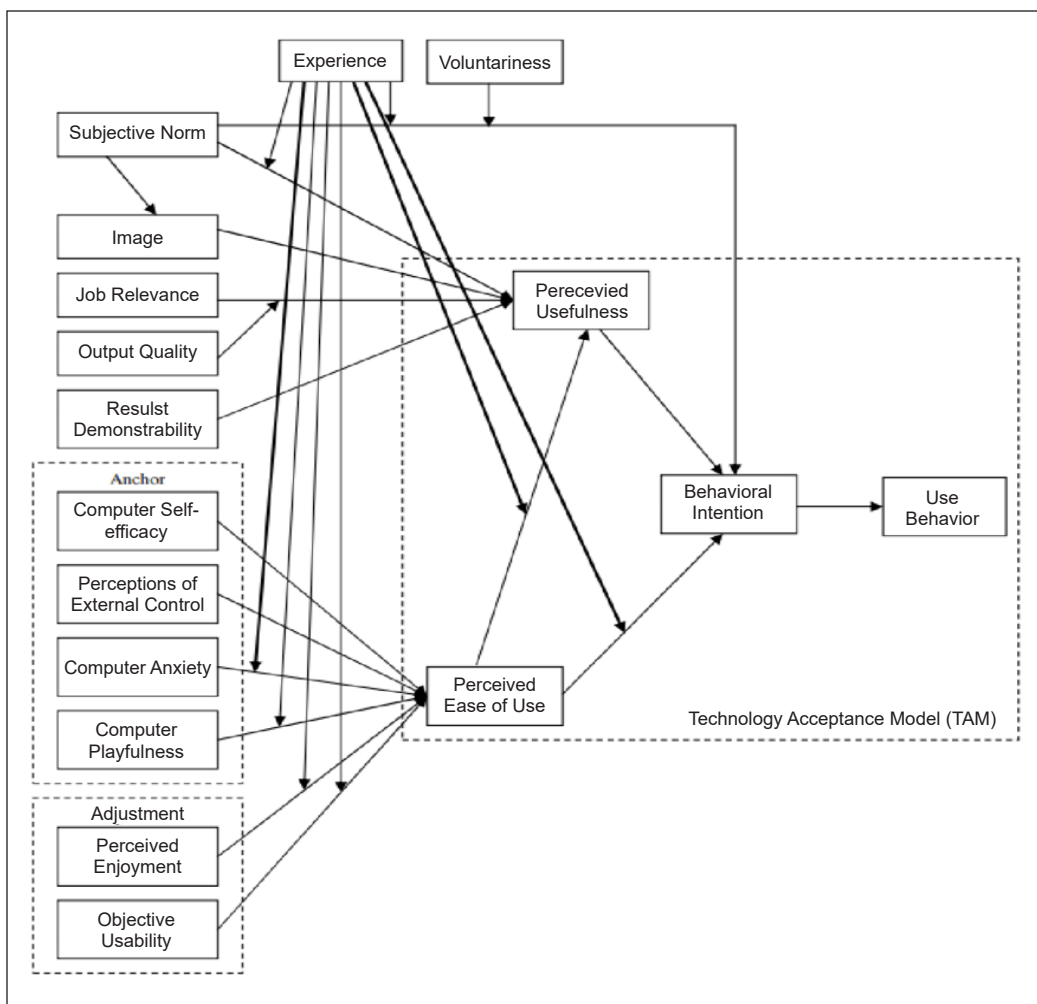


Figure 1. Technology Acceptance Model (TAM) 3
 Source: Venkatesh & Bala (2008)

language learning applications. These perceptions significantly influence the user's intention to adopt and use the technology. Social Influence (SI) refers to the impact of social factors such as peers, family, and instructors on an individual's decision to use the technology. Facilitating Conditions (FC) encompass the external factors that facilitate or hinder technology usage, such as access to resources and technical support.

However, existing literature on technology acceptance among non-English major learners in Malaysia using mobile language learning applications may have gaps in understanding the influence of cultural factors, language proficiency levels, and pedagogical strategies on technology adoption. Therefore, this theoretical framework guides the development of research questions, hypotheses, and methodologies to address these gaps by exploring the relationships between the constructs of TAM 3 within the specific context of English language learning in Malaysia. By investigating these relationships, researchers can develop insights into effective strategies for improving English speaking proficiency among non-English major learners using mobile language learning applications, ultimately contributing to the enhancement of language education practices in Malaysia.

METHODOLOGY

Research Design

This qualitative research study adopts an ethnographic approach, employing in-depth interviews as the primary research method

to delve into the experiences and attitudes of learners not majoring in English towards using mobile language learning applications. Through ethnographic exploration, we aim to immerse ourselves in the cultural context of these learners, capturing rich insights into their motivations, app usage patterns, and perceived impacts on speaking proficiency. An ethnographic approach is most suitable for this study as it allows for an in-depth understanding of the social and cultural factors influencing learners' interactions with mobile language learning applications. Moreover, ethnography enables the researchers to uncover nuanced insights into the challenges and obstacles faced by participants, providing a holistic view of their experiences within their natural environment (Corbett, 2022). Additionally, the research aims to pinpoint the challenges and obstacles encountered by learners not majoring in English as they engage with mobile language learning applications. The findings of this study will provide valuable insights into the efficacy of these apps in improving speaking skills among this particular group of learners. The findings will also identify the factors influencing their choices. Hence, the study strives to educate educators, application developers, and learners on how to customise these tools to better align with the needs and preferences of non-English major learners, ultimately enhancing their language acquisition and communication skills.

Research Context

This qualitative study was carried out within the university environment of Malaysia,

which is recognised for its cultural diversity and multilingual setting. In this context, a varied student population, especially those not majoring in English or related fields, actively employs mobile language learning applications to improve their proficiency in English speaking. The study was undertaken within a dynamic educational environment where integration in language learning has become progressively widespread and significant. Data for this study were gathered from undergraduate students not majoring in English enrolled in a listening and speaking course during the second semester of the academic year 2022/2023. This specific course constitutes a vital element of the university's curriculum, designed to enhance students' oral communication skills in English. The selection of participants from this course aligns with the study's relevance to the institution's educational goals.

It underscores the emphasis placed on English language proficiency across various academic disciplines. Moreover, the 2022/2023 academic year offers a contemporary context for investigating the utilisation of mobile language learning applications. Given the widespread use of smartphones and convenient access to language learning apps, this study captures the latest trends in how non-English major learners leverage technology to improve their speaking abilities. By concentrating on the experiences and perspectives of these students, the study seeks to determine the motivations and challenges encountered by learners engaging with mobile language learning tools in this specific academic

setting. Our investigation delves into the diverse array of mobile language learning tools available to participants, encompassing popular platforms such as Duolingo and specialised speaking-focused apps like Tandem. By explicitly delineating our focus on these prominent examples, we aim to examine learners' motivations and challenges within the dynamic landscape of mobile learning applications. The outcomes of this study will add to the comprehensive comprehension of language education in the digital age and guide future endeavours to create language learning applications that are more effective and centred on the learner.

Research Participants

In this qualitative research study, a total of 20 university students from a Malaysian university were chosen as research participants (see Table 1). Table 1 below showcases the diversity of participants selected, representing various genders, ages, academic backgrounds, fields of study, and disciplines within a Malaysian university. The selection of these students was deliberate, utilising a purposive sampling method to guarantee representation from diverse academic backgrounds, specifically emphasising those not majoring in English or related fields. This intentional selection process facilitated a comprehensive understanding of the experiences and perspectives of learners not majoring in English who utilise mobile language learning applications. The participants comprised individuals pursuing degrees in engineering, business, and sciences. The

Table 1
Demographics of the participants

Participant Pseudonym	Gender	Age	Academic Background	Field of Study
Lee	Female	21	Engineering	Mechanical Engineering
Alice	Female	22	Business	Marketing
Fatin	Female	20	Sciences	Biology
Ahmad	Male	23	Engineering	Electrical Engineering
Wei	Male	24	Business	Finance
Alysa	Female	21	Sciences	Chemistry
Amir	Male	22	Engineering	Civil Engineering
Fatima	Female	20	Business	International Business
Raj	Male	21	Sciences	Physics
Mei-Ling	Female	22	Engineering	Computer Science
Aisha	Female	23	Business	Management
Lin	Female	24	Sciences	Environmental Science
Muhammad	Male	21	Engineering	Chemical Engineering
Sofia	Female	22	Business	Entrepreneurship
Kai	Male	20	Sciences	Mathematics
Aditya	Male	21	Engineering	Industrial Engineering
Jun	Male	22	Business	Accounting
Leila	Female	23	Sciences	Geology
Wong	Male	24	Engineering	Electrical Engineering
Tan	Male	20	Business	Economics

Source: Authors' work

inclusion of this diverse representation across various academic fields was vital in capturing the heterogeneous nature of the student population in a Malaysian university. By incorporating participants from different academic backgrounds, the research sought to investigate how non-English major learners from various fields interact with mobile language learning apps and whether their motivations, preferences, and challenges differ based on their respective disciplines. Each participant underwent two interview sessions, conducted at different points in time. The dual-interview approach was adopted to offer a longitudinal perspective on the participants' experiences and attitudes

toward using mobile language learning applications. The first interview sought to capture initial impressions and motivations, while the second interview aimed to provide insights into any changes in attitudes and experiences over time. This design was selected to ensure a comprehensive and nuanced understanding of the participants' utilisation of these apps to enhance their speaking proficiency in English.

Interview Protocol

The interview protocol employed in this qualitative research study was designed to collect comprehensive insights from university students in Malaysia, specifically

those not majoring in English or related fields, regarding their utilisation and attitudes toward using mobile language learning applications for enhancing speaking proficiency in English. Prior to its implementation in the study, the interview protocol underwent a rigorous validation process to ensure its content relevance, suitability, validity, and reliability. It is imperative to elucidate that the interview protocol underwent meticulous scrutiny by two other seasoned supervisors who were actively supervising PhD students. These supervisors, though not affiliated with this particular research project or serving as co-supervisors, lent their expertise to critically assess the protocol's design, ensuring it aligns with established qualitative research methodologies and effectively captures the nuanced experiences and perspectives of the target participants. The validation process involved a comprehensive review of the interview questions to ascertain their appropriateness in eliciting in-depth responses pertinent to the research objectives. Through iterative discussions and feedback exchanges, potential ambiguities or biases were meticulously addressed, thereby enhancing the protocol's content validity. The instrument incorporated open-ended questions intended to delve into the participants' motivations for using these applications, the frequency of their use, their preferred applications, and their perceptions of the impact on their speaking abilities. Furthermore, it delved into participants' challenges and obstacles while interacting with these mobile language learning tools. The questions were meticulously developed

to extract rich and detailed responses, facilitating a thorough understanding of the participants' experiences and perspectives. The interview instrument, tailored specifically for this research, is crucial in collecting data contributing to the study's objectives.

Data Analysis

The data analysis for this qualitative research study comprised in-depth interviews with university students in Malaysia who were not majoring in English but were avid users of mobile language learning applications to improve their English-speaking proficiency. The data collected through these interviews was methodically transcribed and subsequently subjected to thematic analysis. The analysis centred on identifying recurrent themes and patterns in participants' responses pertaining to their motivations, frequency of app usage, preferred mobile language learning applications, perceived impacts on speaking abilities, and the challenges faced during their language learning journey. The qualitative data analysis process for thematic analysis followed established guidelines, including data coding, categorisation, and interpretation, to derive meaningful insights and draw conclusions regarding the efficacy and limitations of mobile language learning apps for non-English major learners in the Malaysian university context.

Ethical Considerations

Prior to the study's commencement, informed consent was obtained from all the participants. They were also assured

of their right to withdraw from the study at any point without facing any negative consequences. In order to protect their privacy and confidentiality, the participants' identities were anonymised. Data collected during the interviews were securely stored and accessible only to the research team. Additionally, the research adhered to ethical principles of beneficence and non-maleficence by ensuring that participants' well-being and psychological comfort were prioritised throughout the study. Any potential emotional distress resulting from discussions regarding language learning challenges or difficulties was addressed through a debriefing process. The participants were also provided with information on available support resources if needed. The research also sought to minimise potential power imbalances by fostering a collaborative and open dialogue with the participants, enabling them to freely share their perspectives.

Trustworthiness of the Study

The trustworthiness of this qualitative study is established through a rigorous methodological approach and adherence to ethical considerations, ensuring the validity and reliability of the findings. The deliberate selection of participants through purposive sampling, encompassing a diverse range of academic backgrounds, enhances the study's credibility by comprehensively understanding non-English major learners' perspectives on mobile language learning applications within a Malaysian university context. The dual-interview approach

further strengthens the trustworthiness by offering a longitudinal perspective on participants' experiences, thus enabling a thorough exploration of their motivations, preferences, and challenges over time. The interview instrument, meticulously designed to extract rich and detailed responses, contributes to the study's dependability by facilitating comprehensive data collection aligned with the research objectives. Moreover, the systematic data analysis employing thematic analysis ensures the reliability of the findings through the identification of recurrent themes and patterns in participants' responses. Member checking is another method to ensure trustworthiness, involving participants validating or clarifying the collected data (Flick, 2006). In this study, the supervisor summarised the data and had it reviewed by the participants to ensure accuracy. A peer debriefing strategy was utilised throughout the data collection process to address any potential emotional impact on the supervisor. Additionally, two other seasoned supervisors actively supervising PhD students (not affiliated as supervisors or co-supervisors for this research) assisted in the reflection process to uncover any biases. This approach involved exploring the supervisor's emotions and biases, examining meanings, and clarifying interpretations. Overall, the trustworthiness of this study is upheld through its robust methodology, ethical conduct, and thorough analysis, consolidating the validity and credibility of the insights generated regarding the efficacy of mobile language learning applications for

non-English major learners in a Malaysian university setting.

FINDINGS

The findings of this study revealed three key insights that provide a comprehensive understanding of the utilisation and attitudes of non-English major learners towards using mobile language learning applications for improving speaking proficiency. These findings are (1) perceived motivation towards mobile language learning apps, (2) preferred applications and perceived positive impact on speaking skills, and (3) challenges encountered during the language learning journey. The findings shed light on the motivations, preferences, and challenges these Malaysian university students face as they engage with these language learning tools. Each of the findings makes a substantial contribution to the wider discussion on language acquisition and communication skills among learners not majoring in English, providing valuable insights for educators, application developers, and learners alike.

Perceived Motivations Towards Using Mobile Language Learning Apps

The initial substantial discovery of this qualitative research study underscores the diverse and multifaceted motivations encouraging non-English major learners to adopt mobile language learning applications to enhance their English-speaking abilities. The participants exhibited various motivations, indicating the dynamic nature of language learning in the digital age. Some

participants were primarily motivated by career prospects and the global significance of English proficiency. For example, one student said, “I saw improving my English as crucial for my future career opportunities, especially in the international job market.”

How students utilised mobile language learning applications like Duolingo and Tandem played a crucial role in fostering these career-oriented motivations. With its gamified learning approach, Duolingo transforms language learning into an engaging and interactive experience through features such as streaks, points, and levels. This approach encourages consistent practice by rewarding users for daily activity and progress. For instance, earning points for completing lessons and maintaining streaks for consecutive days of practice makes the learning process feel like a game, which keeps students motivated and committed. One participant highlighted, “The game-like features of Duolingo kept me motivated and made learning English feel like a fun challenge rather than a chore”. This gamification made learning enjoyable and facilitated regular practice, which is crucial for language acquisition. By completing various exercises, students were able to enhance their vocabulary and grammar skills effectively. The instant feedback provided by the app helped them correct mistakes and improve progressively, making the learning journey both fun and productive.

Similarly, Tandem provided a platform for real-time language exchange with native speakers by offering features such

as text, audio, and video chat options. These tools allowed students to practice speaking English in a natural and immersive environment, helping them to enhance their conversational skills and gain cultural insights directly from native speakers. It was particularly beneficial for those aiming to work in global environments where cultural competence is as important as English language proficiency. Another student mentioned, “Interacting with native speakers on Tandem through video calls not only improved my English-speaking skills but also gave me the confidence to engage in real-world English conversations, which I know is invaluable for my career aspirations.”

By facilitating direct communication with native speakers, Tandem enabled students to receive immediate feedback, correct their mistakes in real-time, and build a more authentic and practical understanding of the language. In contrast, others pointed to personal enrichment, cultural curiosity, and the desire to connect with individuals from English-speaking backgrounds as their driving forces: “I’ve always been fascinated by different cultures and learning English through apps allows me to explore various cultural nuances.”

The findings underscore the crucial role played by mobile language learning apps in accommodating this variety of motivations, offering a flexible and accessible platform for learners from diverse academic backgrounds to pursue their speaking proficiency goals. Moreover, these motivations highlight the importance of customising language

learning applications to align with non-English major learners’ aspirations and interests, enhancing their engagement and persistence in the language learning journey.

Preferred Applications and Perceived Impact on Speaking Skills

The second pivotal finding of this study explores the favoured mobile language learning applications among non-English major learners and their perceived impact on speaking skills. Participant preferences varied, with some favouring interactive language apps, such as Duolingo, while others leaned towards more specialised speaking-focus platforms, such as Tandem. For instance, Duolingo, renowned for its gamified learning approach, emerged as a preferred choice for many. Its interactive nature, bite-sized lessons, and engaging challenges resonated with learners seeking a dynamic and enjoyable language learning experience. One participant highlighted, “I find Duolingo really easy to use, and the competitive aspects make it fun to practice regularly.”

On the other hand, platforms like Tandem, renowned for their focus on real-time language exchange, were lauded for their unique ability to enhance fluency through direct interaction with native speakers. By facilitating authentic conversations, Tandem provided learners with invaluable opportunities to apply their language skills in practical contexts and receive immediate feedback. A participant attested to this, stating, “Tandem is great because I get to practice speaking with

native speakers, which has really improved my fluency. The feedback and corrections I receive during these interactions have significantly boosted my confidence in speaking English.” User-friendliness, gamified elements, and the availability of peer interaction influenced these preferences. Participants also reported positive outcomes from their usage, emphasising improved pronunciation, vocabulary acquisition, and speaking fluency. Nevertheless, they faced challenges such as maintaining consistency and needing more personalised content. They noted, “Sometimes I struggle to stay consistent with using the apps because of my busy schedule.” This finding underscores the importance of ongoing development and customisation of mobile language learning apps to meet the specific demands and preferences of non-English major learners, ultimately enhancing the effectiveness of these tools in fostering speaking proficiency.

Challenges Encountered During Language Learning Journey

The third significant finding of this study explored the challenges encountered by non-English major learners in Malaysia as they navigate their language learning journey using mobile applications. The study revealed a range of obstacles that these learners face, encompassing pronunciation, self-discipline, and the limitations of app-based language instruction. Pronunciation emerged as a significant challenge, with participants expressing concerns regarding the authenticity and accuracy of pronunciation feedback provided by

mobile apps. For example, “Sometimes, the pronunciation feedback feels unnatural, and I doubt its accuracy.” Self-discipline and motivation were identified as critical issues, as learners often grapple with maintaining consistent practice and motivation when relying solely on mobile apps for language learning: “It’s challenging to stay motivated when practising alone with the app, especially without the structure of a classroom setting.” Furthermore, the study indicated that mobile applications can only partially replace traditional classroom instruction, as they may lack the depth and interactive elements of in-person classes. Another student remarked that mobile apps lack the interactive elements and depth of in-person classes, making it challenging to grasp certain concepts.” This discovery highlights the necessity of offering extra support and resources to assist learners in overcoming these hurdles, ensuring a language learning experience that is more comprehensive and effective.

DISCUSSION

The research sheds light on non-English major learners’ diverse motivations and preferences for using mobile language learning apps to improve their English-speaking proficiency. Motivations ranging from career goals to personal curiosity and cultural interests highlight the need for app developers and educators to consider the varied nature of language learning. By customising content to meet individual motivations, engagement and persistence in learning can be enhanced (Rafiq et al.,

2021). The varied preferences for different apps also suggest that a diverse range of tools should be available to cater to different learning styles (Karakaya & Bozkurt, 2022; Kukulska-Hulme, 2018; Saleem et al., 2022). While participants reported improved pronunciation and fluency, pronunciation accuracy and self-discipline were significant obstacles. These difficulties point to the need for app developers to enhance features such as pronunciation feedback and integrate elements that support learner motivation and consistency. Mobile apps offer flexible, independent learning opportunities but should not replace traditional classroom instruction entirely. A blended approach, integrating mobile learning with in-person classes, may provide a more effective learning experience.

CONCLUSION

The study's findings underscore the significance of comprehending and accommodating the diverse motivations, preferences, and challenges encountered by non-English major learners utilising mobile language learning apps. Customisation, diversity, and support emerge as pivotal elements in ensuring the effectiveness of these tools in fostering speaking proficiency. By attending to these aspects, both educators and app developers can contribute to a more efficient and engaging language learning experience for non-English major learners, ultimately aiding them in achieving their language learning goals. In the theoretical realm, our study contributes to the ongoing discourse

on technology adoption in education by advocating for the integration of contemporary frameworks such as the Technology Acceptance Model (TAM) 3. By embracing a holistic understanding of technology acceptance, we pave the way for future researchers to explore the intricate interplay between perceived usefulness, ease of use, and psychological factors in the context of language learning. The findings underscore the need for personalised app content, improved features addressing pronunciation feedback, and the integration of traditional instruction to enhance speaking proficiency among non-English major learners using mobile language learning applications. From the findings obtained in this study, we affirm that mobile language learning applications offer unparalleled flexibility, allowing learners to engage with language materials anytime and anywhere, catering to diverse schedules and learning preferences. Their interactive and personalised features provide learners immediate feedback and adaptive learning experiences, fostering motivation and retention. Furthermore, the integration of multimedia resources and gamified elements enhances engagement. It facilitates immersive language acquisition, making it a valuable tool for teachers and researchers seeking innovative approaches to language education. It is, therefore, an approach to consider by teachers and researchers when dealing with speaking, even more so considering that mobile language learning applications will have a growing role in the future educational landscape.

However, it is essential to acknowledge the limitations of our study concerning its small sample size, comprising 20 non-English major university students, potentially limiting the generalisability of the findings to a broader population of language learners. Despite this limitation, our study lays a solid groundwork for future investigations, reaffirming the importance and the transformative potential of mobile language learning applications in revolutionising language education and equipping learners with the skills they need to thrive in today's globalised society.

Recommendations

Several key recommendations should be implemented to improve the effectiveness of mobile language learning applications for non-English major learners. First, customisation and personalisation of content is essential. Mobile apps should align with individual learners' motivations for career advancement, personal enrichment, or cultural curiosity. Tailoring the learning experience can significantly enhance user engagement and long-term persistence in language acquisition (Rafiq et al., 2021). Second, improving pronunciation feedback is crucial. Many learners face challenges with pronunciation accuracy, a common issue in language learning apps. App developers should focus on refining this feature to provide more authentic and reliable feedback. Enhancing pronunciation tools will help learners correct mistakes more effectively and build greater confidence in speaking (Saleem et al., 2022).

Furthermore, motivational features such as gamification or progress tracking should be incorporated into apps. These elements can help learners stay committed and disciplined in their learning routines. Given the self-regulated nature of mobile learning, integrating features that encourage consistent use will improve overall outcomes (Karakaya & Bozkurt, 2022). Lastly, a blended learning approach is recommended, combining the flexibility of mobile learning with the structure of traditional classroom instruction. This hybrid model offers a more holistic learning experience and addresses the limitations of app-based instruction. Educators and institutions should guide learners in selecting the most suitable apps and provide additional support, such as pronunciation workshops or peer study groups, to help overcome challenges and enhance learning.

ACKNOWLEDGEMENTS

The authors express their sincere gratitude to the anonymous reviewers for their constructive comments. Finally, they thank all the participants for their willingness to participate in this study.

REFERENCES

- Al-Emran, M., Arpaci, I., & Salloum, S. A. (2020). An empirical examination of continuous intention to use M-Learning: An integrated model. *Education and Information Technologies*, 25, 2899-2918. <https://doi.org/10.1007/s10639-019-10094-2>
- Chen, Z., Chen, W., Jia, J., & An, H. (2020). The effects of using mobile devices on language learning: A meta-analysis. *Educational Technology Research and Development*, 68(4),

- 1769-1789. <https://doi.org/10.1007/s11423-020-09801-5>
- Corbett, J. (2022). *An intercultural approach to English language teaching* (2nd ed.). Multilingual Matters. <https://www.multilingual-matters.com/page/detail/?k=9781788928632>
- Elaish, M. M., Shuib, L., Ghani, N. A., & Yadegaridehkordi, E. (2019). Mobile English Language Learning (MELL): A literature review. *Educational Review*, 71(2), 257-276. <https://doi.org/10.1080/00131911.2017.1382445>
- Figueiredo, S. (2023). The effect of mobile-assisted learning in real language attainment: A systematic review. *Journal of Computer Assisted Learning*, 39(4), 1083-1102. <https://doi.org/10.1111/jcal.12811>
- Flick, U. (2006). *An introduction to qualitative research*. Sage Publications. <https://uk.sagepub.com/en-gb/eur/an-introduction-to-qualitative-research/book278983>
- Grant, M. M. (2019). Difficulties in defining mobile learning: Analysis, design characteristics, and implications. *Educational Technology Research and Development*, 67, 361-388. <https://doi.org/10.1007/s11423-018-09641-4>
- Huang, C., Wang, T., & Li, Y. (2023). Mobile-assisted English learning beyond the classroom: Understanding the effects of language proficiency on Chinese undergraduate students' behavioral engagement. *Education and Information Technologies*, 29, 737-762. <https://doi.org/10.1007/s10639-023-12301-7>
- Hinze, A., Vanderschantz, N., Timpany, C., Cunningham, S. J., Saravani, S. J., & Wilkinson, C. (2023). A study of mobile app use for teaching and research in higher education. *Technology, Knowledge and Learning*, 28(3), 1271-1299. <https://doi.org/10.1007/s10758-022-09599-6>
- Hsu, K. C., & Liu, G. Z. (2023). A systematic review of mobile-assisted oral communication development from selected papers published between 2010 and 2019. *Interactive Learning Environments*, 31(6), 3851-3867. <https://doi.org/10.1080/10494820.2021.1943690>
- Hwang, G. J., & Fu, Q. K. (2019). Trends in the research design and application of mobile language learning: A review of 2007–2016 publications in selected SSCI journals. *Interactive Learning Environments*, 27(4), 567-581. <https://doi.org/10.1080/10494820.2018.1486861>
- Jeon, J. (2022). Exploring a self-directed interactive app for informal EFL learning: A self-determination theory perspective. *Education and Information Technologies*, 27(4), 5767-5787. <https://doi.org/10.1007/s10639-021-10839-y>
- Kacetyl, J., & Klímova, B. (2019). Use of smartphone applications in English language learning—A Challenge for foreign language education. *Education Sciences*, 9(3), 1-9. <https://doi.org/10.3390/educsci9030179>
- Karakaya, K., & Bozkurt, A. (2022). Mobile-Assisted Language Learning (MALL) research trends and patterns through bibliometric analysis: Empowering language learners through ubiquitous educational technologies. *System*, 110, 1-11. <https://doi.org/10.1016/j.system.2022.102925>
- Klímova, B., & Polakova, P. (2020). Students' perceptions of an EFL vocabulary learning mobile application. *Education Sciences*, 10(2), 1-8. <http://doi.org/10.3390/educsci10020037>
- Kukulska-Hulme, A. (2010). Mobile learning as a catalyst for change. *Open Learning: The Journal of Open, Distance and e-Learning*, 25(3), 181-185. <https://doi.org/10.1080/02680513.2010.511945>
- Kukulska-Hulme, A. (2018). Mobile-assisted language learning [Revised and updated

- version]. In C. A. Chapelle (Ed.), *The concise encyclopedia of applied linguistics* (pp 1-9). Wiley. <http://oro.open.ac.uk/57023/>
- Kukulka-Hulme, A., & Traxler, J. (2019). Design principles for learning with mobile devices. In H. Beetham & R. Sharpe (Eds.), *Rethinking pedagogy for a digital age: Designing for 21st century learning*, (pp. 181-196). Routledge. <https://doi.org/10.4324/9780203078952>
- Lin, J. J., & Lin, H. (2019). Mobile-assisted ESL/EFL vocabulary learning: A systematic review and meta-analysis. *Computer Assisted Language Learning*, 32(8), 878-919.
- Lin, J. W., Huang, H. H., & Tsai, C. W. (2023). Mobile collaborative learning with social network awareness. *Journal of Computer Assisted Learning*, 39(5), 1690-1700. <https://doi.org/10.1111/jcal.12826>
- Morgana, V., & Kukulka-Hulme, A. (Eds.). (2021). *Mobile assisted language learning across educational contexts*. Routledge. <https://doi.org/10.4324/9781003087984>
- Onal, N., Çevik, K. K., & Şenol, V. (2022). The effect of SOS table learning environment on mobile learning tools acceptance, motivation and mobile learning attitude in English language learning. *Interactive Learning Environments*, 30(5), 834-847. <https://doi.org/10.1080/10494820.2019.1690529>
- Palalas, A., & Wark, N. (2020). The relationship between mobile learning and self-regulated learning: A systematic review. *Australasian Journal of Educational Technology*, 36(4), 151-172. <https://doi.org/10.14742/ajet.5650>
- Qiao, H., & Zhao, A. (2023). Artificial intelligence-based language learning: Illuminating the impact on speaking skills and self-regulation in Chinese EFL context. *Frontiers in Psychology*, 14, 1-15. <https://doi.org/10.3389/fpsyg.2023.1255594>
- Rafiq, K. R. M., Hashim, H., & Yunus, M. M. (2021). Sustaining education with mobile learning for English for Specific Purposes (ESP): A systematic review (2012–2021). *Sustainability*, 13(17), Article 9768. <https://doi.org/10.3390/su13179768>
- Saleem, A. N., Noori, N. M., & Ozdamli, F. (2022). Gamification applications in E-Learning: A literature review. *Technology, Knowledge and Learning*, 27(1), 139-159. <https://doi.org/10.1007/s10758-020-09487-x>
- Sarrab, M., Al-Shihi, H., Al-Manthari, B., & Bourdoucen, H. (2018). Toward educational requirements model for mobile learning development and adoption in higher education. *TechTrends*, 62, 635–646. <https://doi.org/10.1007/s11528-018-0331-4>
- Shadiev, R., & Wang, X. (2022). A review of research on technology-supported language learning and 21st century skills. *Frontiers in Psychology*, 13, Article 897689. <https://doi.org/10.3389/fpsyg.2022.897689>
- Shi, Y. (2023). The use of mobile internet platforms and applications in vocal training: Synergy of technological and pedagogical solutions. *Interactive learning environments*, 31(6), 3780-3791. <https://doi.org/10.1080/10494820.2021.1943456>
- Sung, Y. T., Chang, K. E., & Liu, T. C. (2016). The effects of integrating mobile devices with teaching and learning on students' learning performance: A meta-analysis and research synthesis. *Computers & Education*, 94, 252-275. <https://doi.org/10.1016/j.compedu.2015.11.008>
- Venkatesh, V., & Bala, H. (2008). Technology Acceptance Model 3 and a research agenda on interventions. *Decision sciences*, 39(2), 273-315. <https://doi.org/10.1111/j.1540-5915.2008.00192.x>

- Yeh, H. C., Chang, W. Y., Chen, H. Y., & Heng, L. (2021). Effects of podcast-making on college students' English-speaking skills in higher education. *Educational Technology Research and Development*, 69, 2845-2867. <https://doi.org/10.1007/s11423-021-10026-3>
- Yu, Z., Xu, W., & Sukjairungwattana, P. (2023). Motivation, learning strategies, and outcomes in mobile English language learning. *The Asia-Pacific Education Researcher*, 32(4), 545-560. <https://doi.org/10.1007/s40299-022-00675-0>
- Zhang, R., & Zou, D. (2022). Types, purposes, and effectiveness of state-of-the-art technologies for second and foreign language learning. *Computer Assisted Language Learning*, 35(4), 696-742. <https://doi.org/10.1080/09588221.2020.1744666>
- Zhou, Y., & Wei, M. (2018). Strategies in technology-enhanced language learning. *Studies in Second Language Learning and Teaching*, 8(2), 471-495. <http://doi.org/10.14746/ssl.2018.8.2.13>

Metacognitive Strategies and Writing Proficiency: Mediating Role of Critical Thinking Skills in Online Learning Mode During COVID-19

Xiaolei Shen, Lilliati Ismail* and Joanna Joseph Jeyaraj

Faculty of Educational Studies, Universiti Putra Malaysia, 43400 UPM Serdang, Selangor, Malaysia

ABSTRACT

The development of cognitive abilities among EFL learners remains underexplored within English as a foreign language, especially in online writing activities during the COVID-19 era. Enhancing writing proficiency in EFL learners necessitates a heightened cognitive awareness, encompassing the utilization of critical thinking skills and metacognitive strategies. However, existing studies primarily focused on the direct relationship between metacognitive strategies and writing proficiency or critical thinking skills and writing proficiency, overlooking the mediating role of critical thinking skills in online environments. This study sought to bridge this research gap by investigating the interplay among metacognitive strategies, critical thinking skills, and writing proficiency. Specifically, it explores how critical thinking skills mediate the relationship between metacognitive strategies and writing proficiency online. The study involved 459 EFL participants who completed the California Critical Thinking Skills Test, a metacognitive strategies questionnaire, and an IELTS writing test. Data analysis included descriptive, Pearson correlation, and bootstrap analysis for comprehensive examination. The findings unveiled significant correlations among metacognitive strategies, critical thinking skills, and EFL learners' writing proficiency. Of particular note was the mediation of critical thinking skills between metacognitive strategies and writing proficiency, highlighting the pivotal role of critical thinking skills in online writing contexts. These outcomes emphasized the significance of metacognitive

strategies in online writing environments. Future research endeavors could illuminate these dynamics through longitudinal studies across different learning stages.

Keywords: Critical thinking skills, EFL learners, metacognitive strategies, online writing contexts, writing proficiency

ARTICLE INFO

Article history:

Received: 25 January 2024

Accepted: 21 July 2024

Published: 15 November 2024

DOI: <https://doi.org/10.47836/pjssh.32.4.18>

E-mail addresses:

gs62681@student.upm.edu.my (Xiaolei Shen)

lilliati@upm.edu.my (Lilliati Ismail)

joannajoseph@upm.edu.my (Joanna Joseph Jeyaraj)

* Corresponding author

INTRODUCTION

Writing represents a fundamental cognitive process involving capturing and disseminating ideas through applying cognitive strategies to organize thoughts coherently (Kim & Schatschneider, 2017). It requires “knowledge of the language sufficient to formulate the propositional content of the intended message in appropriate linguistic forms” (Schoonen et al., 2011, p. 32) to reflect learners’ writing proficiency (Schoonen et al., 2011). However, EFL learners face numerous challenges due to their limited cognitive awareness of English writing (Teng & Yang, 2022). The primary challenge involves emphasizing language accuracy, such as the correctness of vocabulary and grammar (Qin et al., 2022; Sun et al., 2021). This focus often overshadows individual critical perspectives on given topics in writing assignments (Lu & Xie, 2019). Consequently, many Chinese EFL learners remain at a knowledge-telling stage, prioritizing language proficiency in their compositions over interpreting acquired knowledge, effectively managing the writing process, and evaluating writing outcomes (Lee & Mak, 2018; Moeiniasl et al., 2022; Qin & Zhang 2019; Sun & Zhang, 2022). These obstacles hinder cognitive development, leading to decreased interest in writing activities over time and a potential reluctance to complete assignments (Rahimi & Fathi, 2022). Addressing these challenges and fostering learners’ enthusiasm for writing are paramount concerns for educators.

Additionally, the emergence of COVID-19 has accelerated the shift from

offline to online learning environments (Khodaei et al., 2022). Unlike offline emphasizing linguistic aspects such as grammar and sentence structure, online platforms provide a more flexible and less anxiety-inducing environment (Zhang, 2019). This setting facilitates easier access to online resources, aiding learners in gathering information to construct knowledge and organize their writing effectively. It enables learners to transition from the knowledge-telling stage to the knowledge-transforming stage, where planning transcends the mere organization of existing ideas to convey individual thoughts, thereby developing their cognitive abilities (Hayes, 2000). Cultivating cognitive capabilities in online writing settings focuses on individual cognitive development, such as applying metacognitive strategies (Schoonen et al., 2011) and critical thinking skills (Dong & Chang, 2023) in writing tasks. Consequently, both EFL learners and educators increasingly recognize the importance of these strategies in enhancing writing proficiency and promoting learner autonomy in online learning environments.

Metacognitive strategies are essential for monitoring learning processes, evaluating learning outcomes, and regulating cognitive control to achieve set goals (Teng, 2019). Previous research has primarily focused on the impact of metacognitive strategies as crucial tools for adjusting the writing process and enhancing overall writing quality. For instance, studies by Qin and Zhang (2019) and Teng and Huang (2021) emphasized that planning and monitoring

strategies help learners effectively organize writing tasks and manage their time appropriately. Other research by Karaoglan Yilmaz and Yilmaz (2020) and Zhang (2018) demonstrated that metacognitive strategies enhance students' cognitive awareness and facilitate the transition from passive to active learning in online environments. Thus, metacognitive strategies serve as reliable predictors of writing proficiency. By applying these strategies, learners gain a deeper understanding of composition organization, significantly improving their writing abilities online.

Metacognition is a fundamental aspect of cognitive development, encompassing the concept of "thinking about thinking" (Teng & Yue, 2022, p. 7). Incorporating metacognitive strategies and critical thinking skills is crucial. Critical thinking skills represent advanced cognitive capacities, fostering deep reflection, thorough analysis, and creative problem-solving in writing tasks. These skills facilitate understanding complex experiences and generating innovative ideas, significantly contributing to the writing process (Coloquit et al., 2020). Additionally, these skills "help a person to navigate the increasing flow of diverse information" (Meirbekov et al., 2022, p. 5) on online platforms, facilitating the production of high-quality writing that incorporates various perspectives through the analysis and acknowledgment of diverse learning sources. For example, Meirbekov et al. (2022) and Rahimi and Fathi (2022) noted that critical thinking skills empower learners to utilize online

resources effectively, improving their written output's caliber and comprehensiveness. Similarly, studies by Sun et al. (2021) and Zhang (2018) found that integrating critical thinking skills and metacognitive strategies enriches the writing experience for EFL learners. This integration contributes to the crafting of more sophisticated and compelling written compositions. Thus, these studies underscored the significant impact of metacognitive strategies and critical thinking skills on learners' writing performance.

However, limited attention has been given to the interconnection between metacognitive strategies and critical thinking skills and their contribution to EFL learners' writing proficiency in an online learning context. Therefore, this study aimed to explore the interaction between metacognitive strategies, critical thinking skills, and EFL learners' writing proficiency in an online setting during the COVID-19 pandemic. Additionally, it sought to examine whether critical thinking skills mediate between metacognitive strategies and EFL learners' writing proficiency. The hypotheses of this study are (1) significant relationships between metacognitive strategies, critical thinking skills, and writing proficiency, and (2) critical thinking skills mediate the relationships between metacognitive strategies and writing proficiency. By comprehensively examining the correlations among these factors, this study aimed to advance online writing pedagogy and foster effective learning strategies, ultimately enhancing the writing proficiency of EFL learners.

LITERATURE REVIEW

Metacognitive Strategies and Writing Proficiency

Metacognition involves an individual's awareness and understanding of their cognitive processes, including how they utilize this knowledge to regulate their thinking and learning (Teng, 2023; Veenman et al., 2006). Metacognitive strategies encompass an understanding and awareness of the knowledge that influences cognitive processes and how these factors interact to affect the outcomes of these processes. "These processes help to regulate and oversee learning, and consist of planning and monitoring cognitive activities, as well as checking the outcomes of those activities." (Livingston, 2003, p. 4). Schraw and Moshman (1995) elaborated on metacognitive strategies as mechanisms for effectively controlling and managing one's thinking and learning processes. Subsequently, Wenden (1998) categorized these strategies into planning, task analysis, monitoring, and evaluation. Planning involves selecting appropriate strategies and allocating resources before performance. Task analysis entails that "learners determine what they expected to learn from the task and compare with learning needs and goals." (Wenden, 1998, p. 523). Monitoring refers to individuals' awareness of tracking task performance, while evaluation involves assessing learning outcomes against set goals. Therefore, it is crucial to acknowledge that metacognitive strategies are integral to orchestrating effective learning processes.

Numerous research studies have examined the intricate interconnection between metacognitive strategies and writing proficiency within traditional physical classrooms. For instance, Teng et al. (2021) underscored the significance of metacognitive strategies, specifically those focused on monitoring and controlling the learning process. These strategies have been identified as valuable tools for learners in organizing information and assessing their learning outcomes in English language learning. By utilizing these strategies, learners become aware of their errors and can enhance their English learning abilities. Additionally, traditional writing classes primarily emphasize linguistic aspects such as grammar and lexical usage, which directly impact learners' utilization of metacognitive strategies (Pradhan & Das, 2021; Sun et al., 2021; Teng, 2019). As noted by Pradhan and Das (2021), their findings revealed that most students prioritize the accuracy of sentence structures but lack consistent proficiency in all aspects of metacognitive skills. There are observed deficiencies in the implementation of planning, monitoring, and evaluating skills within the domain of metacognition. Consequently, there is a need to explore effective methods for employing metacognitive strategies in writing.

Compared to offline contexts, online learning environments are not restricted by physical limitations such as location and time. It requires learners to take on more autonomy in managing their writing processes (Karaoglan Yilmaz & Yilmaz, 2020; Teng & Yang, 2022). A

vital implication of this is the crucial role of metacognitive strategies in enhancing EFL learners' writing proficiency in online settings (Qin & Zhang, 2019; Rahimi & Fathi, 2022; Teng et al., 2021). For instance, Qin and Zhang (2019) analyzed the impact of metacognitive strategies on writing within a multimedia learning context. Their findings indicated that proficient writers invest considerable time and effort in structuring writing plans, creating coherent outlines, and effectively managing their time—furthermore, online tools such as interactive whiteboard technology support metacognitive writing strategies. Learners benefit from scaffolding and collaborative interactions in online writing contexts, aiding in developing metacognitive skills (Teng et al., 2021). In a similar study by Rahimi and Fathi (2022) on Wiki-mediated collaborative writing, skilled learners effectively employ metacognitive strategies to assist struggling writers. These strategies include guiding the creation of outlines, fostering diverse perspectives, and offering constructive feedback. Consequently, participants reported increased satisfaction and reduced anxiety when undertaking online writing tasks.

Based on these findings, metacognitive strategies are pivotal in achieving proficiency in English writing, especially across various learning modalities. Understanding the significance of these strategies can inform the development of effective online instructional methods and interventions aimed at enhancing learners' metacognitive skills and overall writing performance.

While these studies emphasized the impact of metacognitive strategies on writing proficiency, learners' critical thinking skills also play an essential role. Therefore, learners' critical thinking abilities should not be underestimated during writing activities.

Critical Thinking Skills and Writing Proficiency

Critical thinking skills, defined as individual experience and reflective thinking (Ennis, 1992; Paul & Elder, 2005), underscore the significance of clear and reasoned thinking processes (Paul & Elder, 2008). These skills “drive the processes of knowledge and professional judgment in a wide variety of professional practice fields” (Facione & Facione, 1996, p. 130). Facione's conceptualization of critical thinking includes key skills such as interpretation, analysis, evaluation, inference, and explanation, all centered on cognitive abilities. Interpretation involves categorizing, decoding sentences, and clarifying meanings, while analysis entails examining ideas and identifying and evaluating arguments. Evaluation skills enable learners to assess claims and arguments critically. Inference and explanation skills involve querying evidence, proposing alternatives, drawing conclusions, justifying procedures, and presenting arguments. Leveraging these skills, learners can efficiently skim and scan various materials, distinguish between various sources, make informed judgments (Ku, 2009), critically assess information, and eloquently express their thoughts (Pally, 1997).

The application of thinking skills in English learning and writing has garnered significant attention. Lu and Xie (2019) conducted quasi-experimental research using the International Critical Thinking Reading and Writing Test (ICTRWT) to compare two groups. Their findings revealed that the ICTRWT enhanced learners' writing proficiency in terms of organization and coherence. Learners tend to develop writing competency by engaging in reflective and evaluative processes, constructing knowledge, and articulating perspectives with efficacy. Learners can construct coherent thoughts throughout writing by engaging in thoughtful exchanges and clarifying ideas. Furthermore, Dong and Chang (2023) delved into influential factors such as familiarity with the writing topic and language proficiency regarding critical thinking performance in writing activities, particularly in depth and breadth. However, they also found that learners faced challenges due to a lack of confidence in their language proficiency, hindering their ability to articulate their perspectives effectively in second-language writing. As a solution, they highlighted the pivotal role of online learning modes, such as MOOCs, in providing learners with more opportunities to freely demonstrate their thinking abilities in their compositions.

Incorporating critical thinking skills into written compositions empowers writers to eloquently express their distinctive and well-founded perspectives, especially in online environments. In a study by Masuku and Mupawose (2022), 29 pathology

participants underwent assessment through a qualitative online survey with ten open-ended questions. The results illuminated a noteworthy relationship between writing and critical thinking skills. Learners were observed actively gathering and comprehending information from online resources to construct their perspectives. Conversely, Yu et al. (2021) discovered no discernible difference in the application of thinking skills in writing between online-based and offline-based contexts. Both learning modalities appear to facilitate learners in gaining confidence and engaging in deep thinking throughout their learning process. These findings underscored the crucial role of critical thinking skills in writing activities. They also highlighted the significant impact of factors such as the online learning mode, which should not be neglected. Given the prevalent online learning mode, critical thinking skills are vital in writing pedagogy and developing learners' writing abilities.

Metacognitive Strategies, Critical Thinking Skills and Writing Proficiency

Several studies have demonstrated the impact of metacognitive strategies and critical thinking skills on EFL learners' writing proficiency in offline and online learning contexts. In contrast to offline settings, online learning environments offer learners a more flexible and interactive platform. This setting fosters face-to-face familiarity and motivation. It also facilitates the exchange of knowledge and ideas among participants (Karaoglan Yilmaz & Yilmaz,

2020; Yılmaz & Keser, 2016). Consequently, it is evident that metacognitive strategies and critical thinking skills significantly influence learners' writing proficiency, particularly in online learning environments.

Additionally, cultivating metacognitive strategies is crucial to fostering critical thinking, as critical thinking fundamentally reflects on one's existing knowledge and justification. Individuals equipped with well-honed metacognitive skills possess a level of control over their beliefs, consciously navigating their evolution despite external influences (Halpern, 1998; Kuhn, 1999). They are adept at articulating their thoughts and justifying their reasons (Magno, 2010; Teng & Yue, 2022). Consequently, metacognitive strategies serve as executive functions that empower individuals to participate in critical thinking, such as making inferences, making decisions, explaining, and forming arguments. Direct instruction in metacognitive strategies can thus significantly enhance learners' critical thinking abilities.

Considering the connection between these constructs, critical thinking skills significantly influence the interplay between metacognitive strategies and EFL learners' writing proficiency (Amin et al., 2020; Murtadho, 2021; Teng & Yue, 2022). For instance, in a survey conducted by Teng and Yue (2022), which involved 644 EFL learners from a Chinese university, it was found that metacognitive writing strategies, encompassing metacognitive knowledge (e.g., declarative, procedural, and conditional knowledge) and regulatory processes (e.g.,

planning, monitoring, and evaluating strategies), along with critical thinking skills, are predictors of learners' writing performance. Metacognitive strategies act as an "executive function," aiding learners in monitoring writing tasks by "making inferences, recognizing assumptions, making deductions, interpreting information, and evaluating arguments" (Teng & Yue, 2022, p. 20). Conversely, Nejad et al. (2022) investigated 235 EFL Iranian learners and found that language learning strategies (e.g., cognitive strategies, metacognitive strategies, and affective strategies) and critical thinking skills predicted learners' writing performance. Interestingly, Sobel's statistical analysis indicated that critical thinking skills were not found to mediate between language learning strategies and writing proficiency. However, they did not elaborate on the reasons for this divergence in their study.

Therefore, critical thinking skills and metacognitive strategies are vital predictors of writing proficiency. These competencies empower learners to recognize issues, consider diverse viewpoints, and construct well-founded arguments by employing planning, monitoring, and self-regulation strategies throughout the writing process. By exploring these connections, a comprehensive understanding of how these factors interact and influence overall writing performance will be gained.

Theoretical Framework

The Cognitive Process Theory of Writing, proposed by Flower and Hayes (1981),

laid the foundation for understanding the cognitive processes involved in writing. This theory is categorized into three main components: the task environment, cognitive writing processes, and writing in long-term memory. The task environment comprises social elements, such as writing assignments, and physical elements, such as the outcomes of learners' writing. Cognitive writing processes involve planning, text generation, and revision, all connected with metacognition (Magno, 2010; Schraw & Moshman, 1995). For example, planning entails the decision-making process in which learners determine what and how to write. Text generation involves translating these plans into written form to convey perspectives to the audience, while revision entails reevaluating the text to enhance its quality (Hayes, 2000). The third component involves learners' long-term memory, encompassing their topic knowledge and stored writing plans. This theory primarily focuses on individuals' cognitive abilities in the writing process. Higher-order thinking skills, such as critical thinking, can also cultivate these cognitive abilities. Critical thinking includes cognitive skills with understanding points, analyzing problems, and providing reasons to support evidence (Halpern, 1998). Importantly, these critical thinking skills can be taught and recognized as applicable in novel situations.

In light of these theories, writing proficiency in this study is associated with conventional writing standards such as lexical accuracy, syntax, cohesion, and coherence. It also emphasizes the crucial

role of cognitive processes in organizing writing effectively and conveying personal meaning. Therefore, due to its complex cognitive nature, achieving writing proficiency entails considering cognitive elements such as metacognitive strategies and critical thinking skills, which contribute to individual cognitive growth.

Research Rationales and Gaps

The rationale for this study is grounded in several key aspects of previous research. Firstly, past studies have consistently highlighted the significance of metacognitive strategies, including planning, monitoring, and evaluating the writing process and outcomes, in enhancing the writing proficiency of EFL learners (Pradhan & Das, 2021; Qin & Zhang, 2019; Rahimi & Fathi, 2022; Teng, 2019, 2021). Critical thinking skills, which involve inference, analysis, evaluation, induction and deduction based on evidence and facts, have been identified as important factors related to writing proficiency (Lu & Xie, 2019).

However, while these studies have respectively examined the impact of metacognitive strategies and critical thinking skills on writing proficiency, they largely neglected to explore their interconnections. In addition, there remains a substantial gap in comprehensive research regarding the mediating role of critical thinking skills in the interaction between metacognitive strategies and writing proficiency among EFL learners within online learning contexts.

To address these research gaps, this study explores the interaction among

metacognitive strategies, critical thinking skills, and EFL learners' writing proficiency. The study analyzed how critical thinking skills mediate metacognitive strategies and writing proficiency among EFL learners in an online learning setting (Figure 1). Guided by the preceding discussion, the research questions of this study were framed as follows:

1. Are there significant relationships between metacognitive strategies (planning, monitoring and evaluating strategies), critical thinking skills and EFL learners' writing proficiency in online learning mode?
2. Do critical thinking skills mediate the relationship between metacognitive strategies and EFL learners' writing proficiency in online learning mode?

METHODS

Research Design

A quantitative approach was utilized to investigate the research questions,

employing structural equation modeling (SEM). SEM allows for the elucidation of multiple statistical relationships by simultaneously modeling and estimating causal relationships among dependent and independent variables (Hair Joseph et al., 2010). This study could examine the relationship between metacognitive strategies, critical thinking skills, and writing proficiency through the structural model. Furthermore, it also explored the mediating role of critical thinking skills in the relationship between metacognitive strategies and writing proficiency.

Participants

The study included 459 sophomore EFL learners chosen randomly from a Chinese University through stratified sampling using a random number generator. The participants were distributed across different academic disciplines. Their ages range from 19 to 21, with English language acquisition beginning in primary school. Moreover, after completing the writing course from their first to second semester under teachers'

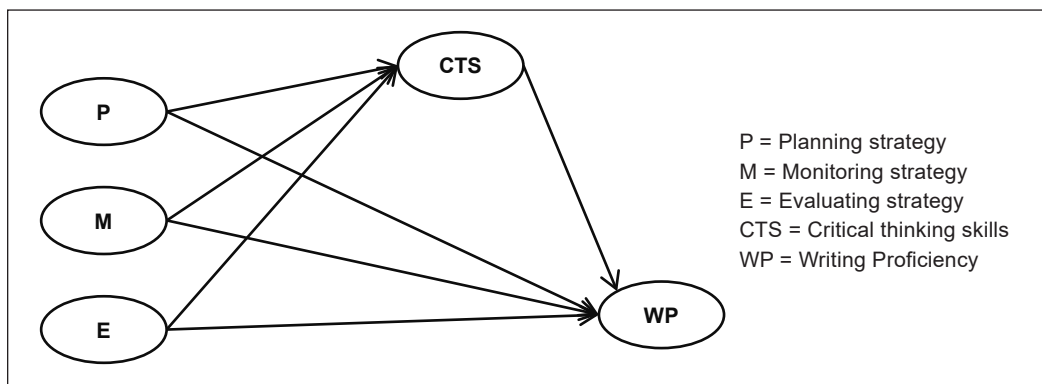


Figure 1. Conceptual framework
Source: Authors' work

guidance, most participants have acquired foundational writing skills, including lexical and syntax choices. They subsequently undertook a final writing examination, consisting of two argumentative writing tests, to assess their writing proficiency after two semesters of the writing course. The final writing examination was scored out of 100, with scores exceeding 60 indicating qualified writing capability. Scores ranging from 60 to 80 denoted an intermediate level, while scores exceeding 80 indicated a high level of writing proficiency. Notably, participants in this study demonstrated an intermediate level of writing proficiency based on their performance in the final examination.

Instruments

The Metacognitive Writing Strategies Questionnaire, developed by Teng (2019), assessed the application and frequency of metacognitive strategies in English writing. The questionnaire aims to examine the correlation between metacognitive strategies and the writing achievements of EFL learners. This questionnaire encompasses three dimensions: planning (6 items), monitoring (8 items), and evaluation strategies (7 items). Respondents employed a five-point Likert scale, ranging from 1 ('strongly disagree') to 5 ('strongly agree'), indicating the extent to which they apply metacognitive strategies in their writing activities. This questionnaire has been widely utilized in prior research (Teng & Yue, 2022; Teng et al., 2021; Teng & Huang, 2021), attesting to its high reliability and

validity. Additionally, the questionnaire demonstrated high internal consistency, as evidenced by a Cronbach's alpha coefficient of .933.

The California Critical Thinking Skills Test was devised by Facione and Facione (1990) to evaluate learners' critical thinking proficiency. This assessment involves various cognitive domains, specifically analysis and evaluation (8 items), interpretation (5 items), deduction (11 items), and induction (10 items) in distinct contexts. These dimensions assess learners' capacity to analyze information from various perspectives, construct coherent arguments, and effectively communicate their ideas after processing and summarizing information. Each correct response accrues one point, while an incorrect answer receives zero points, thus yielding a potential maximum score of 34. This questionnaire has been widely used in prior research (Hollis et al., 2020; Reale et al., 2018), demonstrating high validity and reliability. The high reliability of this instrument in this study was substantiated by Cronbach's alpha coefficient of 0.9, signifying its robust consistency.

Writing proficiency can be examined through a writing test (Schoonen et al., 2011). The writing test employed in this study was adapted from the argumentative writing component of the IELTS writing section. This test necessitates learners to craft a well-structured essay of no less than 200 words, thereby serving as a robust measure of their writing proficiency. The writing test criteria were evaluated

in accordance with the IELTS writing rubric, covering aspects such as “Task Achievement,” “Coherence and Cohesion,” “Lexical Resource,” “Grammatical Range,” and “Accuracy.” These criteria provide a comprehensive framework for assessing the quality of the essays. Scores were assigned using a scale ranging from 0 to 5, which reflected the varying degrees of writing proficiency exhibited by the participants. Subsequently, participants’ compositions were input into the *Pigai* application to check for plagiarism. Then, these writing tests were rated by a panel of three highly experienced lecturers to ensure a thorough assessment of the participants’ writing abilities.

Procedures

In light of the global outbreak of COVID-19, the research was executed via Tencent Meeting, allowing for remote collaboration in October 2022. Throughout the research process, the instructor emphasized the paramount importance of confidentiality. Moreover, all participants were explicitly assured that their participation in the research was entirely voluntary, and they had the autonomy to withdraw from the study at any point without facing any consequences.

Afterward, all participants logged into Tencent Meeting and joined the research session, where the instructor delivered a detailed explanation of the online research procedures, which included completing a questionnaire, a critical thinking skills test, and a writing test. Participants accessed the

questionnaire via the *Wenjuanxing* online data collection application (Wang et al., 2023) in terms of the instructions. Initially, they completed a metacognitive strategies questionnaire within a designated 15-minute timeframe. Concurrently, participants were provided with a link to the California Critical Thinking Skills Test on the *Wenjuanxing* platform, which they completed within 30 minutes. After completing the questionnaires and tests, participants were given 40 minutes to compose an IELTS essay on a designated topic, following the prescribed writing guidelines. They submitted their essays as Word files via *Rain Classroom*. *Rain Classroom* is a Chinese online interactive platform for student-teacher interactions (Sun, 2019). After completion, the instructor meticulously reviewed all questionnaires and tests submitted on the *Wenjuanxing* and *Rain Classroom* platforms to ensure their completeness. Any missing questionnaires or tests were excluded from the analysis. This systematic approach to data collection ensured that the research was conducted standardized, promoting consistency and reliability in the obtained results. The emphasis on confidentiality, voluntary participation, and adherence to ethical guidelines further guaranteed the ethical integrity of the research.

Data Analysis

Descriptive and Pearson correlation analyses were conducted using SPSS to assess data distribution and establish correlations among metacognitive strategies, critical thinking skills, and writing proficiency.

The bootstrap method within a Structural Equation Modeling (SEM) framework was conducted using AMOS 24.0 to investigate the mediating effect of critical thinking skills. Confirmatory Factor Analysis was utilized to assess the structural model's constructed validity, including evaluating fit indices, convergent validity and constructed reliability. As outlined by Byrne (2016), several fit indices are considered: Chi-Square (X^2) should be less than 5.0, Goodness of Fit Index (GFI) should be above .90, Comparative Fit Index (CFI) should ideally surpass the threshold of .90, while the Tucker-Lewis Index (TLI) should also surpass this value. Also, the Root Mean Square Error of Approximation (RMSEA) should be less than .08 to indicate a good model fit. Furthermore, to assess convergent validity, it is imperative that the Average Variance Extracted (AVE) surpasses the .50. These stringent criteria ensure the robustness and reliability of the structural model under examination. Reliability testing of the constructed model was conducted using the Constructed Reliability method, with a threshold of .70 or higher indicating acceptable reliability. If all the data meet these established criteria, it can

be concluded that the model fits well within the context of this study.

RESULTS

Table 1 presents the mean scores for the planning, monitoring, and evaluating strategies, which were 3.33, 3.42, and 3.42, respectively, indicating an intermediate level of metacognitive awareness among the participants. Similarly, the mean scores for critical thinking skills and writing proficiency were 3.23 each, signifying an intermediate level of critical thinking ability and writing proficiency. The skewness values for the various factors exhibited a range between -.065 and .322, while the kurtosis values fell from -1.057 to -.903. These findings collectively indicated that the data adhered to a normal distribution, ensuring the reliability and suitability of the dataset for statistical analyses.

As shown in Table 2, the Chi-Square (X^2) values for all factors ranged from 1.434 to 4.552, and all these values were less than 5.0, indicating a satisfactory fit of the overall causal path diagram. The GFI values fell from .971 to .988, the CFI values ranged from .924 to .994, and the TLI values spanned from .921 to .992,

Table 1
Descriptive analysis

		Mean	Std. Deviation	Skewness	Kurtosis
Metacognitive Strategies	Planning	3.33	.956	.130	-.903
	Monitoring	3.41	.956	.036	-1.045
	Evaluating	3.43	.961	-.087	-1.036
Critical Thinking Skills		16.15	3.052	.322	-1.004
Writing	Writing proficiency	3.24	.936	-.109	-.936

Source: Authors' work

Table 2

Confirmatory factors analysis

	X²	GFI	CFI	TLI	RMSEA	AVE	CR
Planning strategy	1.271	.989	.998	.997	.027	.616	.906
Monitoring strategy	1.731	.972	.991	.987	.049	.627	.931
Evaluating strategy	1.083	.986	.998	.998	.017	.541	.888
Critical thinking skills	3.344	.987	.989	.964	.088	.494	.822
Writing proficiency	1.357	.987	.996	.994	.034	.558	.883

Note. X² = Chi-square; GFI = Goodness of Fit Index; CFI = Comparative Fit Index; TLI = Tucker-Lewis Index; RMSEA = Root Mean Square Error of Approximation; AVE = Average Variance Extracted; CR = Constructed Reliability

Source: Authors' work

all indicating a favorable fit between the models. The RMSEA values for all factors, except for Critical thinking skills, ranged from .038 to .096, demonstrating that the pattern of residuals meets the standard. Considering the complexity of the model and the good fit of other model indices, the RMSEA is considered to fit the model well. Moreover, the Average Variance Extracted (AVE) ranged from .522 to .611, all exceeding .50, indicating good validity in this structural model. The Composite Reliability (CR) values ranged from .807 to .921, all exceeding .70, demonstrating good reliability in this structural model.

As depicted in Table 3, a positive association was observed between planning, monitoring and evaluating strategies and writing proficiency within online learning. The correlation coefficients between planning strategy and writing proficiency ($r = .371$), monitoring strategy and writing proficiency ($r = .410$), and evaluating strategy and writing proficiency ($r = .460$) were all positive, signifying a positive relationship. Furthermore, the association between planning, monitoring and evaluating strategies and critical thinking skills was also significant. The interplay between planning strategy and critical

Table 3

Correlational analysis

	P	M	E	CTS	WP
P	1				
M	.420**	1			
E	.440**	.462**	1		
CTS	.594**	.570**	.560**	1	
WP	.403**	.467**	.417**	.560**	1

Note. P = Planning strategy; M = Monitoring strategy; E = Evaluating strateg; CTS = Critical thinking skills; WP = Writing Proficiency

Source: Authors' work

thinking skills yielded 0.576. In contrast, the correlation between the monitoring strategy and critical thinking skills reached 0.594, and the correlation between evaluating strategy and critical thinking skills was .569. Likewise, the interconnection between critical thinking skills and writing proficiency among EFL learners was also significant, with a correlation coefficient of .451. These findings demonstrated the positive connections among metacognitive strategies, critical thinking skills, and writing proficiency.

Table 4 and Figure 2 describe the influence of critical thinking skills as a mediator on the connection of metacognitive strategies and EFL learners' writing proficiency within online mode. The indirect correlations between planning strategy and writing proficiency ($\beta = .030, p = .702 > .05$) and evaluating strategy and writing proficiency ($\beta = .082, p = .285 > .05$) were initially found to be insignificant. However, with critical thinking skills as a mediator, the correlations between planning strategy and writing proficiency

Table 4
Mediating model analysis

Mediation model	Beta	P	95% CI		Decision
			LL	UL	
P → CTS → WP	.003	.964			
Std. Indirect Effect (SIE)	.199	.006	.114	.307	Full Mediation
M → CTS → WP	.158	.027			
Std. Indirect Effect (SIE)	.143	.001	.077	.242	Partial Mediation
E → CTS → WP	.081	.270			
Std. Indirect Effect (SIE)	.138	.004	.073	.232	Full Mediation

Note. P = Planning strategy; M = Monitoring strategy; E = Evaluating strateg; CTS = Critical thinking skills; WP = Writing Proficiency

Source: Authors' work

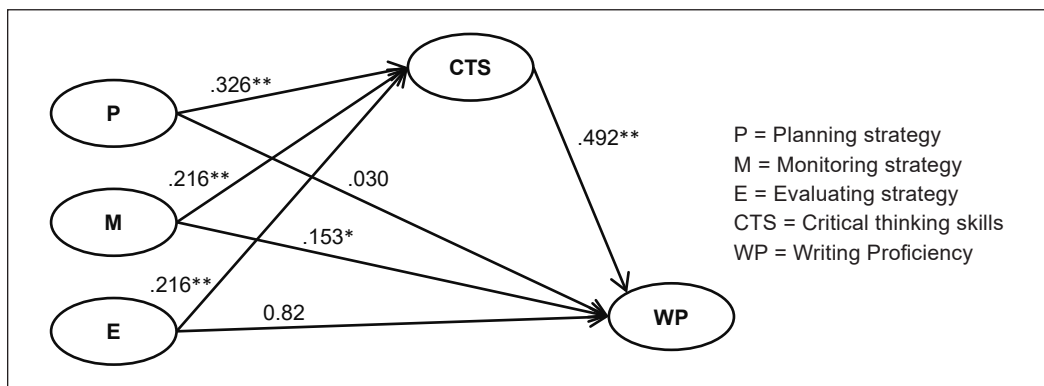


Figure 2. Mediating analysis model
Source: Authors' work

($\beta = .160$, $p = .000 < .05$) and evaluating strategy and writing proficiency ($\beta = .106$, $p = .000 < .05$) became significant, with 95% confidence intervals that excluded 0. It implies that critical thinking skills fully mediate planning strategy and writing proficiency and evaluating strategy and writing proficiency. On the other hand, the indirect correlation between monitoring strategy and writing proficiency was found to be significant ($\beta = .153$, $p = .035 < .05$). The correlation between monitoring strategy and writing proficiency demonstrated significance ($\beta = .106$, $p = .001 < .05$) when mediated by critical thinking skills. The 95% confidence interval, which ranged from .043 to .199, unequivocally excluded 0. This observation underscored the role of critical thinking skills as a partial mediator in this correlation.

DISCUSSION

This study examines the interplay of metacognitive strategies, critical thinking skills and writing proficiency among EFL learners in online settings. Additionally, it delved into how critical thinking skills mediate the relationship between metacognitive strategies and writing proficiency, employing hypothesis testing via structural equation modeling.

The study uncovered a significant relationship between metacognitive strategies and critical thinking skills in online learning. Specifically, metacognitive strategies such as planning, monitoring, and evaluating had a discernible impact on the development of critical thinking abilities.

These outcomes suggested that EFL learners proficient in metacognitive strategies tend to articulate deeper thoughts and perspectives, effectively supporting their arguments in writing tasks and demonstrating adept judgment amidst diverse viewpoints. These findings aligned with previous research by Magno (2010), Amin et al. (2020), and Murtadho (2021), all of which underscored the close relationship between developing critical thinking skills and enhancing metacognitive capability. Improving metacognitive skills can boost learners' critical thinking abilities as learners engage in strategic planning and cognitive processes that reflect their beliefs and evaluations of their mental processes.

Our results further corroborated these findings, showcasing the significant importance of both metacognitive strategies and critical thinking skills, as demonstrated by the data analysis using structural models. In particular, within the online learning context of our study, metacognitive strategies encompass cognitive activities that involve profound reflection and thoughtful analysis. This viewpoint was in line with a previous empirical study conducted by Teng and Yue (2022), which showed a strong correlation between heightened metacognitive awareness and variations in learners' critical thinking skills. Developing critical thinking skills necessitates engaging «executive control and executive processes» (Teng & Yue, 2022, p. 3) to monitor and evaluate the learning process by applying metacognitive skills. In our study, the six sub-scales of

metacognitive strategies are regarded as comprehensive, contributing significantly to the observed variations in learners' critical thinking skills. It underscored the crucial role of executive control and processes in cultivating metacognitive awareness, thereby enhancing critical thinking abilities.

Secondly, this study revealed an interconnection of critical thinking skills and writing proficiency in online settings. These findings aligned with previous research (Afshar et al., 2017; Farahian et al., 2021; Masuku & Mupawose, 2022; Yu et al., 2021), underscoring the efficacy of critical thinking skills in the realm of English language learning within online contexts. Notably, EFL learners with robust critical thinking abilities demonstrate superior performance in iterative processes such as redrafting, refining, and revising their written work. Studies by Afshar et al. (2017) and Farahian et al. (2021) emphasized the significance of analytical skills in argumentative writing and the crucial role of feedback in the writing process, particularly using e-learning portfolios as scaffold teaching strategies. These strategies enable learners to engage in critical reflection, thereby enhancing writing proficiency through connecting prior viewpoints via information collection and analysis. Our study extended these findings by asserting that writers who apply critical thinking skills excel in expressing their viewpoints effectively in online learning environments, thus improving their abilities to organize and interpret content when generating written work.

On the contrary, this study presented a partial discrepancy with the previous research by Lu and Xie (2019), who observed limited improvement among learners in explicating and paraphrasing sentences within compositions. This limitation may stem from learners' unfamiliarity with defining examples and analogies when expressing ideas. Additionally, although Dong and Chang (2023) emphasized the significant role of critical thinking skills in writing performance, EFL learners often exhibit low levels of critical thinking skills in traditional offline writing classes. This divergence in results may be attributed to learners' limited awareness of utilizing critical thinking skills in writing and their restricted opportunities to use tech-based tools such as MOOCs in online writing contexts. Thus, the present study extended and strengthened the findings of previous research by indicating that EFL learners tend to utilize credible evidence to argue various points and effectively support their conclusions, thereby enhancing their ability to articulate specific domains of knowledge through the gathering and filtering of diverse information (Dong & Chang, 2023). It also underscored the impact of critical thinking skills on EFL learners' writing proficiency in online contexts, demonstrating that EFL learners possess moderate abilities to recognize and understand essential information.

Thirdly, the study's findings directly correlate monitoring strategy and writing proficiency. These results were consistent with prior research (Karaglan Yilmaz

& Yilmaz, 2020; Qin & Zhang, 2019; Rahimi & Fathi, 2022; Teng, 2019, 2021). These studies stated that learners excel in monitoring the effectiveness of their chosen strategies and making necessary adjustments to optimize their writing outcomes, thus contributing to enhanced writing proficiency. Studies by Teng (2021) and Rahimi and Fathi (2022) highlighted learners' increased attention to monitoring their writing process, focusing on content organization, revision, and meticulous language proficiency checks using online tools such as Wiki-mediated and white-board tools. Our results corroborated these findings, indicating that EFL learners demonstrate a clear tendency to employ efficient monitoring strategies in refining writing drafts within a multimedia learning environment.

Our results also indicated an indirect relationship between planning strategy and writing proficiency and evaluating strategy and writing proficiency. These findings partially differed from previous studies (Qin & Zhang, 2019; Rahimi & Fathi, 2022; Teng, 2021). These studies suggested that learners with strong metacognitive abilities demonstrate the capacity to establish clear and achievable writing goals, effectively plan their writing process, and judiciously select appropriate strategies to accomplish their objectives and develop distinctive perspectives. However, our study did not find a direct relationship between planning strategy and writing proficiency or evaluating strategy and writing proficiency. The reasons for these inconsistent results lie

in the shift from offline to online learning. Learners in online environments are often unfamiliar with using online resources (Zhang, 2019). The flexible nature of online learning requires greater autonomy in planning (Teng, 2021; Teng & Yang, 2022), allocating allocation, and tracking progress during the writing process. It makes well-informed decisions during the assessment phase of their online writing. Thereby, the outcomes of this research further emphasized the significant direct influence of monitoring strategy on learners' writing proficiency. They also unveiled the indirect relationship between planning strategy and writing proficiency and evaluating strategy and writing proficiency in the online learning environment.

Finally, this study revealed that critical thinking skills partially mediate the relationship between monitoring strategy and writing proficiency in online learning modes. It also uncovered that critical thinking skills fully mediated the relationships between planning strategy and writing proficiency and evaluating strategy and writing proficiency in online learning. This extended Magno's (2010) study posited that metacognitive strategies, encompassing metacognitive knowledge and regulation, predict critical thinking skills such as inference, recognition of assumptions, interpretation, evaluation, and induction. Our study also integrated the mediating influence of critical thinking skills within the writing domain, bolstering the Cognitive Process Theory of Writing advocated by Flower and Hayes (1981). This theory

emphasizes the pivotal function of cognitive processes in structuring writing cohesively and articulating individualized meaning. Moreover, this study echoed previous research (Amin et al., 2020; Murtadho, 2021; Teng & Yue, 2022), suggesting that learners with strong critical thinking skills excel at selecting appropriate monitoring strategies to effectively structure their writing through the application of metacognitive strategies, ultimately enhancing their academic writing performance. According to these studies, our study showed that critical thinking skills can influence learners to comprehend information deeply, organize information systematically, and evaluate information to establish writing goals and assess writing outcomes.

However, the inconsistent findings from Nejad et al. (2022) suggested that although there were significant positive correlations between learning strategies, critical thinking skills, and writing performance, critical thinking skills did not mediate the relationship between learning strategies, including metacognitive strategies, and writing performance. These divergent results may be attributed to language proficiency and writing motivation. Learners with advanced language proficiency are more likely to be motivated to employ metacognitive strategies and critical thinking skills in their writing endeavors. Therefore, the current study emphasized the paramount role of critical thinking skills in enhancing learners' proficiency in planning, structuring, and organizing their writing effectively. Critical thinking skills

contribute significantly to EFL learners' ability to monitor their writing process and evaluate their writing outcomes. However, it is important to note that other factors, such as motivation and self-confidence, may also impact learners' capacity to effectively track their online writing progress.

CONCLUSION

In summary, this study delved into the interplay among metacognitive strategies, critical thinking skills, and writing proficiency in online settings. Following bootstrap analysis, the study unveiled significant associations between critical thinking skills, metacognitive strategies, and writing proficiency. Notably, it illuminated a direct correlation between monitoring strategy and writing proficiency, an indirect correlation between planning strategy and writing proficiency, and an evaluation of strategy and writing proficiency in online learning modes. Furthermore, critical thinking skills acted as a mediator in the relationship between metacognitive strategies and writing proficiency. Specifically, critical thinking skills acted as partial mediators in the interplay of monitoring strategy and writing proficiency. These skills fully mediated the relationship between planning strategy and writing proficiency and evaluating strategy and writing proficiency in online learning contexts during the COVID-19 pandemic.

Several limitations warrant acknowledgment. Firstly, this study primarily focused on intermediate participants, limiting insights into learners

at other proficiency levels. Future research should aim to include a more diverse sample of learners across various proficiency levels. Additionally, this study utilized a cross-sectional design, gathering data at a single time point in an online platform. Future investigations could explore these correlations through a longitudinal study in blended learning modes, providing a deeper understanding of how learners' writing proficiency evolves across different learning stages.

This study carries significant implications for teaching and learning. Firstly, teachers are encouraged to integrate metacognitive strategies into writing classes. They should guide learners in setting clear outlines tailored to the specific objectives of their writing tasks, managing their writing process, and assessing their writing outcomes to ensure alignment with the original writing objectives. This approach nurtures learners' autonomous learning abilities. Secondly, cultivating learners' awareness of utilizing critical thinking skills in writing assignments is crucial. Teachers should guide learners to articulate arguments and viewpoints to express their unique perspectives effectively, thereby increasing their awareness of using these skills to enhance their writing proficiency. Lastly, in addition to incorporating metacognitive strategies and critical thinking skills into writing classes, attention should be given to different learning contexts, such as online learning. Teachers should scaffold learners in organizing their writing with the aid of online tech-based tools such as whiteboards,

as suggested by Teng (2021). It motivates learners to engage with writing tasks and facilitates receiving diverse feedback from peers and teachers after critically displaying their compositions on the whiteboard. Thus, the suggestions provided by this study would significantly contribute to enhancing EFL learners' writing proficiency in the online learning mode through the effective utilization of critical thinking skills and metacognitive strategies.

ACKNOWLEDGEMENT

The authors appreciate the assistance of a lecturer, Tao Yahui, from Faculty of Foreign Languages at Anyang University, China, in organizing volunteers to participate in this study.

REFERENCES

- Afshar, H. S., & Movassagh, H. (2017). On the relationship among critical thinking, language learning strategy use and university achievement of Iranian English as a foreign language majors. *The Language Learning Journal*, 45(3), 382-398. <https://doi.org/10.1080/09571736.2014.914238>
- Amin, A. M., Corebima, A. D., Zubaidah, S., & Mahanal, S. (2020). The correlation between metacognitive skills and critical thinking skills at the implementation of four different learning strategies in animal physiology lectures. *European Journal of Educational Research*, 9(1), 143-163. <https://doi.org/10.12973/eujer.9.1.143>
- Byrne, B. M. (2016). *Structural equation modeling with amos: Basic concepts, applications, and programming* (3rd ed). Taylor & Francis. <https://doi.org/10.4324/9781315757421>

- Coloquit, L. M. P., Canabal, L. A., & Paderan, M. P. C. (2020). Improving students' English writing proficiency through interactive writing technique. *Journal of English Education and Linguistics*, 1(1), 72-81. <https://doi.org/10.56874/jeel.v1i1.50>
- Dong, Y., & Chang, X. (2023). Investigating EFL writers' critical thinking performance across languages. *Thinking Skills and Creativity*, 47, 101232. <https://doi.org/10.1016/j.tsc.2023.101232>
- Ennis, R. H. (1992). The degree to which critical thinking is subject specific: Clarification and needed research. In S. P. Norris (Ed.), *The generalizability of critical thinking* (pp. 21-37). Teachers College Press.
- Facione, N. C., & Facione, A. P. (1996). Externalizing the critical thinking in clinical judgment. *Nursing Outlook*, 44(3), 129-136. [https://doi.org/10.1016/s0029-6554\(06\)80005-9](https://doi.org/10.1016/s0029-6554(06)80005-9)
- Facione P. A. & Facione N. C. (1990). *The California critical thinking skills test: Form A & form B*. California Academic Press.
- Farahian, M., Avarzamani, F., & Rajabi, Y. (2021). Reflective thinking in an EFL writing course: to what level do portfolios improve reflection in writing? *Thinking Skills and Creativity*, 39, 100759. <https://doi.org/10.1016/j.tsc.2020.100759>
- Flower, L., & Hayes, J. R. (1981). A cognitive process theory of writing. *College Composition and Communication*, 32(4), 365-387. <https://doi.org/10.58680/ccc198115885>
- Hair Joseph, F., Black William, C., Babin Barry, J., & Anderson Rolph. E. (2010). *Multivariate data analysis: A global perspective* (7th ed.). Pearson Prentice Hall.
- Halpern, D. F. (1998). Teaching critical thinking across domains: Dispositions, skills, structure training, and metacognitive monitoring. *American Psychologist* 53(4), 449-455. <https://doi.org/10.1037/0003-066x.53.4.449>
- Hayes, J. R. (2000). A new framework for understanding cognition and affect in writing. In R. Indrisano, & J. R. Squire (Eds.), *Perspectives on writing: Research, theory, and practice* (pp. 6 – 44). International Reading Association.
- Hollis, H., Rachitskiy, R., van der Leer, L., & Elder, L. (2020). Validity and reliability testing of the International Critical Thinking Essay Test form A (ICTET-A). *Psychological Reports*, 33(1), 94-116.
- Karaoglan Yilmaz, F. G., & Yilmaz, R. (2020). Learning analytics as a metacognitive tool to influence learner transactional distance and motivation in online learning environments. *Innovations in Education and Teaching International*, 58(5), 575-585. <https://doi.org/10.1080/14703297.2020.1794928>
- Khodaei, S., Hasanvand, S., Gholami, M., Mokhayeri, Y., & Amini, M. (2022). The effect of the online flipped classroom on self-directed learning readiness and metacognitive awareness in nursing students during the COVID-19 pandemic. *BMC Nursing*, 21(1), 22. <https://doi.org/10.1186/s12912-022-00804-6>
- Kim, Y. S. G., & Schatschneider, C. (2017). Expanding the developmental models of writing: A direct and indirect effects model of developmental writing (DIEW). *Journal Educational Psychology*, 109(1), 35-50. <https://doi.org/10.1037/edu0000129>
- Ku, K. Y. L. (2009). Assessing students' critical thinking performance: Urging for measurements using multi-response format. *Thinking Skills and Creativity*, 4(1), 70-76. <https://doi.org/10.1016/j.tsc.2009.02.001>
- Kuhn, D. (1999). A developmental model of critical thinking. *Educational Researcher*, 28(2), 16-25. <https://doi.org/10.3102/0013189X028002016>

- Lee, I., & Mak, P. (2018). Metacognition and metacognitive instruction in second language writing classrooms. *Tesol Quarterly*, 52(4), 1085-1097. <https://doi.org/10.1002/tesq.436>
- Livingston, J. A. (2003). Metacognition: An Overview. *Psychology*, 13, 259-266.
- Lu, D., & Xie, Y. (2019). The effects of a critical thinking oriented instructional pattern in a tertiary EFL argumentative writing course. *Higher Education Research & Development*, 38(5), 969-984. <https://doi.org/10.1080/07294360.2019.1607830>
- Magno, C. (2010). The role of metacognitive skills in developing critical thinking. *Metacognition and Learning*, 5(2), 137-156. <https://doi.org/10.1007/s11409-010-9054-4>
- Masuku, K. P., & Mupawose, A. (2022). Students' experiences of using a writing-intense programme to facilitate critical thinking skills on an online clinical training platform: A pilot study. *South African Journal of Communication Disorders*, 69(2), 1-7. <https://doi.org/10.4102/sajcd.v69i2.919>
- Meirbekov, A., Maslova, I., & Gallyamova, Z. (2022). Digital education tools for critical thinking development. *Thinking Skills and Creativity*, 44, 101023. <https://doi.org/10.1016/j.tsc.2022.101023>
- Moeiniasl, H., Taylor, L., DeBraga, M., Manchanda, T., Huggon, W., & Graham, J. (2022). Assessing the critical thinking skills of English language learners in a first year psychology course. *Thinking Skills and Creativity*, 43, 101004.
- Murtadho, F. (2021). Metacognitive and critical thinking practices in developing EFL students' argumentative writing skills. *Indonesian Journal of Applied Linguistics*, 10(3), 656-666. <https://doi.org/10.17509/ijal.v10i3.31752>
- Nejad, M. E., Izadpanah, S., Namaziandost, E., & Rahbar, B. (2022). The mediating role of critical thinking abilities in the relationship between English as a foreign language learners' writing performance and their language learning strategies. *Frontier Psychology*, 13, 746445. <https://doi.org/10.3389/fpsyg.2022.746445>
- Pally, M. (1997). Critical thinking in ESL: An argument for sustained content. *Journal of Second Language Writing*, 6(3), 293-311. [https://doi.org/10.1016/s1060-3743\(97\)90016-3](https://doi.org/10.1016/s1060-3743(97)90016-3)
- Paul, R & Elder, L. (2005). *Critical thinking: Learn the tools the best thinkers use*. Prentice Hall.
- Paul, R., & Elder, L. (2008). Critical thinking: Strategies for improving student learning, Part II. *National Center for Developmental Education*, 32(2), 34-35.
- Pradhan, S., & Das, P. (2021). Influence of metacognition on academic achievement and learning style of undergraduate students in Tezpur university. *European Journal of Educational Research*, 10(1), 381-391. <https://doi.org/10.12973/eu-jer.10.1.381>
- Qin, L., & Zhang, L. J. (2019). English as a foreign language writers' metacognitive strategy knowledge of writing and their writing performance in multimedia environment. *Journal of Writing Research* 11(2), 393-413. <https://doi.org/10.17239/jowr-2019.11.02.06>
- Qin, C., Zhang, R., & Xiao, Y. (2022). A questionnaire-based validation of metacognitive strategies in writing and their predictive effects on the writing performance of English as foreign language student writers. *Frontiers in Psychology*, 13, 1071907. <https://doi.org/10.3389/fpsyg.2022.1071907>
- Rahimi, M., & Fathi, J. (2022). Exploring the impact of wiki-mediated collaborative writing on EFL students' writing performance, writing self-regulation, and writing self-efficacy: A mixed methods study. *Computer Assisted Language Learning*, 35(9), 2627-2674. <https://doi.org/10.1080/09588221.2021.1888753>

- Reale, M. C., Riche, D. M., Witt, B. A., Baker, W. L., & Peeters, M. J. (2018). Development of critical thinking in health professions education: A meta-analysis of longitudinal studies. *Currents in Pharmacy Teaching and Learning*, 10(7), 826-833. <https://doi.org/10.1016/j.cptl.2018.04.019>
- Schoonen, R., van Gelderen, A., Stoel, R. D., Hulstijn, J., & de Glopper, K. (2011). Modeling the development of L1 and EFL writing proficiency of secondary school students. *Language Learning*, 61(1), 31-79. <https://doi.org/10.1111/j.1467-9922.2010.00590.x>
- Schraw, G., & Moshman, D. (1995). Metacognitive theories. *Educational Psychology Review*, 7(4), 351-371. <https://doi.org/10.1007/bf02212307>
- Sun, H. (2019). A SPOC Teaching Mode of College English Translation Based on "Rain Classroom". *International Journal of Emerging Technologies in Learning (IJET)*, 14(17), 182-193. <https://doi.org/10.3991/ijet.v14i17.11206>
- Sun, Q., & Zhang, L. J. (2022). Understanding learners' metacognitive experiences in learning to write in English as a foreign language: A structural equation modeling approach. *Frontiers in Psychology*, 13, 986301. <https://doi.org/10.3389/fpsyg.2022.986301>
- Sun, Q, Zhang L. J., & Carter, S. (2021). Investigating students' metacognitive experiences: Insights from the English as a foreign language learners' writing metacognitive experiences questionnaire (EFLWMEQ). *Frontiers in Psychology* 12, 1-15. <https://doi.org/10.3389/fpsyg.2021.744842>
- Teng, M. F. (2019). The role of metacognitive knowledge and regulation in mediating university EFL learners' writing performance. *Innovation in Language Learning and Teaching*, 14(5), 436-450. <https://doi.org/10.1080/17501229.2019.1615493>
- Teng, M. F. (2021). Interactive-whiteboard-technology-supported collaborative writing: Writing achievement, metacognitive activities, and co-regulation patterns. *System*, 97, 102426. <https://doi.org/10.1016/j.system.2020.102426>
- Teng, M. F. (2023). Metacognition. In Z. Wen, R. L. Sparks, A. Biedroń & M. F. Teng (Eds.). *Cognitive individual differences in second language acquisition: Theory, assessment & pedagogy* (pp. 175-199). De Gruyter Mouton.
- Teng, M. F., Qin, C., & Wang, C. (2021). Validation of metacognitive academic writing strategies and the predictive effects on academic writing performance in a foreign language context. *Metacognition and Learning*, 17(1), 167-190. <https://doi.org/10.1007/s11409-021-09278-4>
- Teng, M. F., & Yang, Z. (2022). Metacognition, motivation, self-efficacy belief, and English learning achievement in online learning: Longitudinal mediation modeling approach. *Innovation in Language Learning and Teaching*, 17(4), 778-794. <https://doi.org/10.1080/17501229.2022.2144327>
- Teng, M. F., & Yue, M. (2022). Metacognitive writing strategies, critical thinking skills, and academic writing performance: A structural equation modeling approach. *Metacognition and Learning*, 18(1), 237-260. <https://doi.org/10.1007/s11409-022-09328-5>
- Teng, M. F., & Huang, J. (2021). The effects of incorporating metacognitive strategies instruction into collaborative writing on writing complexity, accuracy, and fluency. *Asia Pacific Journal of Education*, 43(4), 1071-1090. <https://doi.org/10.1080/02188791.2021.1982675>
- Veenman, M. V. J., Van Hout-Wolters, B. H. A. M., & Afflerbach, P. (2006). Metacognition and learning: conceptual and methodological considerations. *Metacognition and Learning*, 1, 3-14. <https://doi.org/10.1007/s11409-006-6893-0>
- Wang, Y., Derakhshan, A., Pan, Z., & Ghiasvand, F. (2023). Chinese EFL teachers' writing assessment feedback literacy: A scale development and

- validation study. *Assessing Writing*, 56, 100726. <https://doi.org/10.1016/j.asw.2023.100726>
- Wenden, A. L., (1998). Metacognitive knowledge and language learning. *Applied Linguistics*, 19(4), 515-537.
- Yılmaz, R., & Keser, H. (2016). The impact of interactive environment and metacognitive support on academic achievement and transactional distance in online learning. *Journal of Educational Computing Research*, 55(1), 95-122. <https://doi.org/10.1177/0735633116656453>
- Yu, Z., Hu, R., Ling, S., Zhuang, J., Chen, Y., Chen, M., & Lin, Y. (2021). Effects of blended versus offline case-centred learning on the academic performance and critical thinking ability of undergraduate nursing students: A cluster randomised controlled trial. *Nurse Education in Practice*, 53, 103080. <https://doi.org/10.1016/j.nepr.2021.103080>
- Zhang, X. (2018). Developing college EFL writers' critical thinking skills through online resources: A case study. *SAGE Open*, 8(4), 2158244018820386. <https://doi.org/10.1177/2158244018820386>
- Zhang, X. (2019). Exploring the relationship between college students' writing anxiety and the pedagogical use of online resources. *International Journal of Educational Technology in Higher Education*, 16(1), 18. <https://doi.org/10.1186/s41239-019-0149-y>

Students' Perceptions of Evaluative Judgement in Technology-mediated Dialogic Peer Feedback

Xiao Xie, Mei Fung Yong*, Ngee Thai Yap and Vahid Nimehchisalem

Faculty of Modern Languages and Communication, Universiti Putra Malaysia, 43400 UPM Serdang, Selangor, Malaysia

ABSTRACT

The COVID-19 pandemic has prompted a worldwide shift in higher education, transitioning from traditional in-person teaching to online instruction. Consequently, there is a need to reevaluate classroom assessment methods for language educators. It involves a departure from summative assessment to formative assessment and sustainable assessment practices. As part of this paradigm shift, academia has placed significant emphasis on developing evaluative judgement and integrating peer feedback. This study focuses on a 12-week English expository writing course, where 66 English Linguistic undergraduates at a Malaysian public university actively participated in technology-mediated dialogic peer feedback under the guidance of two instructors to enhance their development of evaluative judgement in argumentative writing. The thematic analysis of transcript data from semi-structured interviews unveiled that the participants encountered challenges in utilising teacher feedback to enhance their peer feedback skills, overcoming socio-affective barriers to providing and receiving constructive feedback with an open mind and coordinating group members to collaborate effectively in an online environment. They generally held a positive stance towards technology-mediated dialogic peer feedback, acknowledging the advantages of honing evaluative judgement in argumentative writing as providers and receivers of feedback. This study aims to contribute to the discourse regarding students' openness to peer feedback (i.e., peer feedback orientation) and the challenges and benefits they encounter within the digital learning environments,

which have become increasingly common in higher education, with the goal of fostering evaluative judgement within and beyond the writing course.

Keywords: Argumentative writing, evaluative judgement, peer feedback orientation, technology-mediated dialogic peer feedback

ARTICLE INFO

Article history:

Received: 25 January 2024

Accepted: 03 June 2024

Published: 15 November 2024

DOI: <https://doi.org/10.47836/pjssh.32.4.19>

E-mail addresses:

gs58879@student.upm.edu.my (Xiao Xie)

yong@upm.edu.my (Mei Fung Yong)

ntyap@upm.edu.my (Ngee Thai Yap)

vahid@upm.edu.my (Vahid Nimehchisalem)

* Corresponding author

INTRODUCTION

Due to the outbreak of the COVID-19 pandemic, a substantial number of schools worldwide suspended in-person face-to-face classes and transitioned to online courses. Online teaching has reshaped the physical structure of traditional classroom teaching and the learning environment in response to an urgent change in delivery methods (Wood, 2021, 2022). It posed a significant challenge to language teaching and classroom assessment, requiring a swift shift from summative assessment, primarily focused on grades and certifications, to formative assessment and sustainable assessment (Xie et al., 2022). Providing students with direct, authentic experiences of evaluating others and being evaluated aids their understanding of how to form intricate judgements (Ajjawi et al., 2018; Tai et al., 2016).

As a promising solution to address the assessment challenges, the cultivation of evaluative judgement, a vital cognitive ability, empowers individuals “to make decisions about the quality of work of oneself and others” (Tai et al., 2018, p. 467). This ability is pivotal in the immediate course context and lifelong learning pursuits (Boud & Soler, 2016). Effective evaluative judgement involves ongoing interactions between individuals, their peers, and established performance standards. However, current assessment and feedback practices often overlook the development of evaluative judgement (Ajjawi et al., 2018; Tai et al., 2016). Some approaches position students as passive recipients of

feedback (Carless & Boud, 2018), thereby hindering their development of evaluative judgement and leaving them reliant on external evaluations without the ability to discern appropriate assessment criteria.

Peer feedback, a prevailing approach for enhancing evaluative judgement (Ajjawi et al., 2018; Dawson et al., 2019; Tai et al., 2018), is the process where learners provide and receive feedback on their peers’ writing, either in written or oral form, typically in pairs or small groups (Yu & Lee, 2016). Present peer feedback practices have faced criticism for being unidirectional and excessively centred on content, resulting in students being passive recipients. As noted by Vasu et al. (2016), in the educational context of Malaysia, where teachers are often expected to be accountable for the learning of their students, “peer feedback, although highly valued, turned out to be the least preferred in this context despite the current pedagogical trend that focuses more on student’s active participation in improving their peers’ writing than being dependent on teachers’ feedback” (p. 164). Furthermore, researchers have observed that feedback on writing performance might not fully address students’ needs and interests, resulting in wasted or ignored feedback (Carless & Boud, 2018). Learners might find it difficult to utilise feedback to improve their writing or have a vague sense of applying it effectively, likening the challenge to learning a new language.

Researchers have recently investigated dialogic and technology-mediated peer feedback to address the limitations of peer

feedback (Dawson et al., 2019). Dialogic peer feedback has been highlighted as an interactive dialogue between the provider and receiver regarding the quality of writing, with the potential to negotiate meaning and empower learners (Zhu & Carless, 2018). Moreover, the continual advancement of digital media has opened new avenues and platforms to encourage active student participation in peer feedback activities. However, amidst the extensive body of peer feedback research, only a handful of previous studies have focused on students' perspectives on technology-mediated dialogic peer feedback (e.g. Latifi et al., 2021; Wood, 2021, 2022, 2023; Wu et al., 2024).

In the context of ESL/EFL writing, substantive work has been done on peer feedback. However, they have mostly been focused on text revisions and writing quality, with considerable attention paid to the linguistic or textual aspects of student writing (Liu & Yu, 2022; Xie et al., 2024; Yu & Lee, 2016) while neglecting higher-order cognitive abilities such as evaluative judgement. Furthermore, this oversight of students' openness towards peer feedback (i.e., peer feedback orientation) can have substantial consequences, as a genuinely formative feedback process can only be achieved if students proactively engage with it and can incorporate it into their learning (Kasch et al., 2022, 2023). Accordingly, scholars have consistently called for further studies to understand students' self-perceptions of peer feedback as well as their affective, behavioural, and cognitive engagement with peer feedback in ESL/

EFL writing (Cheng & Zhang, 2024; Xie et al., 2022).

Therefore, it is essential to conduct further exploration into students' receptiveness towards technology-mediated dialogic peer feedback. It is crucial not only for cultivating their evaluative judgement but also for educators to enhance the effectiveness of online writing courses. Such insights can provide improved support for students' learning and growth, representing an innovative approach to language assessment in the digital era.

Objectives of the Study

This study focused on how students perceived the process of providing and receiving feedback in a digital environment, particularly about evaluating argumentative essays in English. By exploring the challenges they faced and the benefits they experienced, the goal was to gain insights into their receptiveness to technology-mediated dialogic peer feedback, as well as the effectiveness and potential areas for improvement of this innovative assessment as a valuable tool for enhancing evaluative judgement ability in academic writing. Thus, the study aimed to address the following objectives:

- (a) To explore the challenges students face when engaging in technology-mediated dialogic peer feedback.
- (b) To investigate the benefits of technology-mediated dialogic peer feedback in nurturing the development of evaluative judgement.

LITERATURE REVIEW

Evaluative judgement involves the discernment and application of standards, the calibration of judgements, and the ability to avoid being misled (Ajjawi et al., 2018; Tai et al., 2016). The concept of evaluative judgement originated from Sadler's (1989) notion of 'evaluative knowledge' or 'evaluative expertise', which students must develop to become increasingly independent learners and rely less on their teachers' guidance.

As a prevailing practice to cultivate evaluative judgement, peer feedback nurtures critical thinking, reflection, and the ability to assess one's work and that of others (Ajjawi et al., 2018; Tai et al., 2016). Drawing on Vygotsky's (1978) social constructivism, the paradigm of peer feedback has evolved from being viewed as a favour provided by others to being regarded as a dynamic and interpretative communicative process. In this approach, participants engage in dialogue, sense-making, and co-construction of interpretations, enabling feedback recipients to negotiate meaning, challenge, and evaluate their feedback (Xie et al., 2022). For ESL/EFL students, peer feedback acts as a scaffold, guiding them towards the zone of proximal development (ZPD) in language skills. The social constructivism perspective has led to a growing number of recent studies examining the paradigm shift from the simple focus on written corrective feedback (WCF) to a wide range of different directions for addressing the impact of peer feedback on L2 writing, examining students' affective, behavioural,

and cognitive engagement (Cheng & Zhang, 2024; Liu & Yu, 2022). Through this learning model, where peers provide feedback to each other, learners grasp feedback criteria more effectively and gain a deeper understanding of writing and revision processes. The balanced status of peer feedback providers and receivers enhances students' sense of audience and cultivates a sense of ownership over their writing. Furthermore, peer feedback effectively reduces students' anxiety and emotional defensiveness, resulting in a more positive attitude towards writing.

In the present study, technology-mediated dialogic peer feedback is defined as a communication process in which learners engage in dialogues about performance and standards using mobile devices and computers (Liu & Carless, 2006). The disruption caused by the COVID-19 pandemic has expedited the adoption of technology-mediated assessment and learning environments, inspiring researchers to investigate the practical possibilities of peer feedback (e.g., Latifi et al., 2021; Wood, 2021, 2022, 2023; Wu et al., 2024). According to Wu et al. (2024), a review of relevant literature regarding peer feedback in mobile-assisted applications was conducted, and four distinct features were found: great accessibility and flexibility, synchronous and asynchronous modes, gamification mechanics, and anonymity of the process. In a series of qualitative case studies, Wood (2021, 2022, 2023) employed a technology-mediated approach using cloud applications like Google Docs to facilitate

screen-casting peer feedback in the context of online learning to promote proactive engagement and feedback uptake. Utilising an online peer feedback environment called EduTech, Latifi et al. (2021) found that students in the three experimental conditions (peer feedback, peer feedforward, and their combination) benefited more than students in the control group condition (without any support) in terms of peer learning processes, argumentative essay quality, and domain-specific learning. Explorations such as these are crucial to deepen our understanding of the obstacles and benefits students encounter in technology-mediated dialogic peer feedback, which aligns with our goal of fostering evaluative judgement. Nevertheless, there is a need for additional investigation into students' receptiveness to peer feedback to improve comprehension and efficacy of peer feedback in the digital realm.

While an extensive body of research spanning the last three decades has centred on scrutinising the influence of peer feedback on holistic writing enhancement, a relatively modest portion of this inquiry has been channelled into comprehending the differences encompassing students' cognitive, evaluative, and socio-affective processes (Cheng & Zhang, 2024; Liu & Yu, 2022). Furthermore, there has been a noticeable paucity of research addressing students' perceptions of peer feedback orientation (Kasch et al., 2022, 2023). It is crucial to emphasise that engaging in providing and receiving feedback entails a certain degree of openness from individuals to make the most of digital technologies.

This willingness to embrace and utilise peer feedback is essential for personal development and academic growth during the COVID-19 crisis and in the blended higher education setting after the pandemic (Wood, 2021, 2022, 2023).

MATERIALS AND METHODS

Research Sample

This qualitative study explores the impact of technology-mediated dialogic peer feedback on the development of evaluative judgement in English argumentative writing among ESL/EFL students. These participants were registered with the English Department at a public university in Malaysia and enrolled in an expository writing course, which was conducted online during the designated semester.

The study was conducted using purposeful sampling, identifying the purposefully selected participants that best helped the researchers understand the research objectives (Creswell & Creswell, 2017). The 66 participants in the study constituted a heterogeneous group of English Linguistics undergraduates, comprising 44 students from Malaysia and 22 international Chinese students. This cohort consisted of 58 females and 8 males, which generally represents the gender proportion of the English Linguistic major in Malaysia. Their English language proficiency was intermediate (Malaysian Examinations Council [MEC], 2019), as evidenced in their MUET Bands 3 and 4 for the Malaysian students or IELTS writing scores ranging between 5.0 and 6.0 for the international

Chinese students. These scores aligned with the B1 and B2 levels of the Common European Framework of Reference for Languages (CEFR). Table 1 provides the demographic information of five participants, whose excerpts were analysed in detail.

Over the research duration, the participants engaged in technology-mediated dialogic peer feedback. They were granted the choice to independently select their team members to amplify their engagement. They formed groups of three individuals working collectively to participate in the feedback process. It fostered a sense of responsibility and ownership among them and promoted collaborative learning as they jointly navigated the intricacies of providing and receiving feedback. This student-led team formation allowed diverse perspectives, contributing to a comprehensive and enriching exchange of insights and suggestions. By actively participating in selecting their peers, the students were more invested in the feedback process, which ultimately facilitated a more constructive and valuable learning experience. The study was conducted with the approval of the Ethics Committee for Research Involving Human Subjects.

Writing Training

Over 12 weeks, the participants were immersed in a process-genre approach (Huang & Zhang, 2022; Rahimi & Zhang, 2022) to argumentative writing. As Larsen-Freeman (2016) noted, this approach aims to cultivate students' understanding of linguistic features, rhetorical structures, and writing skills, covering prewriting, drafting, revising, editing, and publishing stages. The goal is to empower students to create texts that serve specific communicative purposes within a particular genre. The success of the process-genre approach hinges on the active engagement of the students, as their reactions and involvement with the approach are deemed more crucial than the approach itself (Larsen-Freeman, 2016).

The technology-mediated dialogic peer feedback training adopted a variety of online platforms to facilitate in-class instruction and constant instructor-student and peer-peer communication, including Zoom, Google Meet, Facebook, and Kumospace, along with the university's online learning management system. Using Google Docs, multiple reviewers provided textual feedback, and authors requested

Table 1
Demographic information of five representative participants

Participant	Age	Gender	Nationality	English Language Proficiency
Eillen	19	Female	Malaysian	MUET Band 3
Tina	18	Female	Malaysian	MUET Band 3
Amber	18	Female	Malaysian	MUET Band 4
Vivian	20	Female	Chinese	IELTS Writing Score 5.5
Joan	20	Female	Malaysian	MUET Band 4

Source: Authors' work

clarifications, creating a dynamic dialogic peer feedback process and facilitating bidirectional peer feedback and peer feedforward (Wood, 2021, 2022).

Five steps were followed during the training to engage the participants (Figure 1). Firstly, participants embarked on a comprehensive exploration of the linguistic intricacies and rhetorical structures. This phase was primarily facilitated through instructor-led analyses of exemplars, providing participants with practical insights into the nuances of the argumentative genre. During this phase, participants systematically acquired procedural knowledge essential for effective writing. The instructors played a pivotal role by providing explicit guidance on a spectrum of strategies critical for successful writing. It included strategies for efficient planning, such as goal setting, idea generation, and structuring ideas. It also extended to the intricacies of text production, covering aspects like language use and content integration. Of particular significance was the focused attention on strategies relevant to argumentation evaluation.

During the second phase of the peer feedback training, participants brainstormed and generated ideas to support their arguments in response to the given writing prompts. With their ideas in place, they were required to write a 1,000-word essay with their group members, laying the groundwork for the subsequent stages. As part of the in-class discussion, the instructors provided their expertise in providing feedback to the exemplars, guiding the participants to

propose formative feedback and formulate evaluative judgements. Next, the participants exchanged drafts with different groups to provide and receive constructive feedback. There was no doubt that peer feedback was an important component of the process, followed by a peer feedforward opportunity to clarify any questions regarding the comments made by peers. Through this collaborative process, they gained valuable insights and perspectives, which they utilised to revise and refine their essays.

For the final project, the participants were free to select an argumentative topic that piqued their interest. They were encouraged to continuously improve their drafts through ongoing peer feedback, as well as feedback from their two instructors. Through this comprehensive approach, the participants were nurtured to become more proficient and confident writers, equipped to effectively communicate and express their ideas within this specific genre.

To safeguard the participants' privacy and address potential concerns regarding the impact of constructive feedback on their self-esteem during the peer feedback process, the writing course instructors took measures to ensure anonymity. In the 12-week online training, each participant was requested to use a pseudonym. This approach prevents their classmates and the peer feedback receivers from knowing the true source of the feedback they received. Using pseudonyms, the participants could freely express their thoughts and opinions without fear of judgement or negative repercussions. It fostered a supportive and

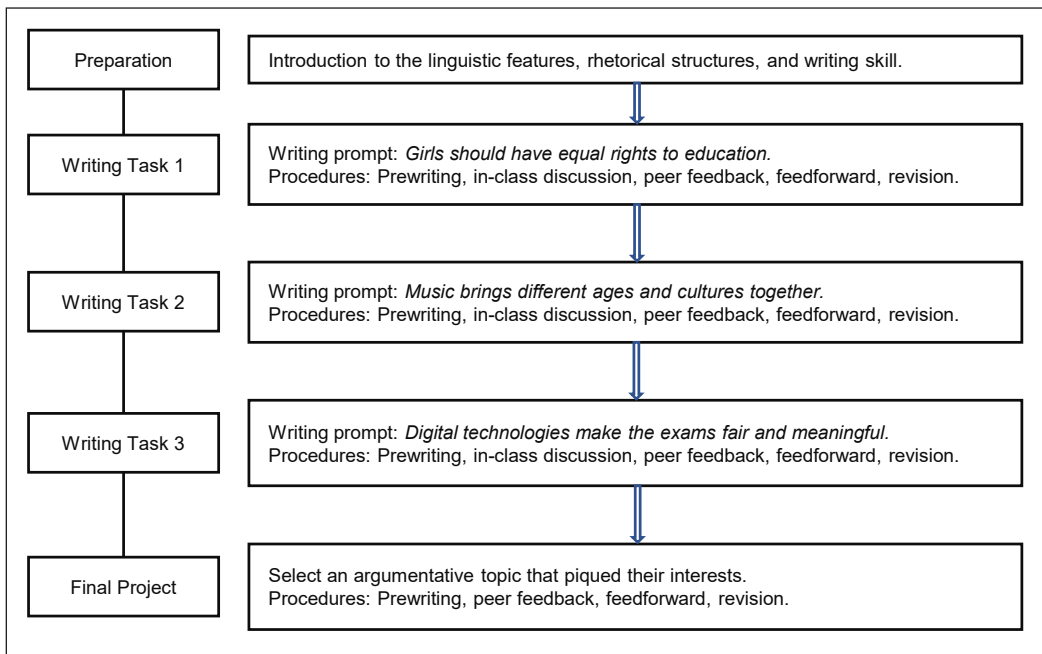


Figure 1. The flowchart for the training of the technology-mediated dialogic peer feedback
Source: Authors' work

confidential environment, encouraging participants to openly engage in the peer feedback process and share their honest perspectives. Moreover, pseudonyms can be used to report subjective feelings and the authenticity of personal reflections.

Data Collection

A semi-structured interview was adopted for data collection because it was highly relevant to the research while maintaining flexibility and responsiveness to the participants' perspectives. After obtaining the participants' written consent, online one-on-one semi-structured interviews were conducted as a practical solution to overcome physical constraints. Each interview lasted approximately 30 minutes, allowing for in-depth discussions with the participants.

During the interview, the participants were encouraged to openly share their experiences and insights related to the technology-mediated dialogic peer feedback process. They were presented with specific questions, such as (1) "What challenges did you encounter in the online peer feedback process?" (2) "How did you overcome these challenges with your group members?" (3) "What are the benefits you received from providing feedback on other students' argumentative essays?" and (4) "What are the benefits you received from receiving feedback on your own argumentative essay?" These questions aimed to elicit detailed responses and reflections from the participants, shedding light on their perceptions and experiences throughout the feedback process.

Data Analysis

To facilitate the data analysis, transcripts of the interviews with the 66 participants were transferred into NVivo 12, a qualitative research software. It allowed for systematic organisation and categorisation of the interview data, making it easier to identify patterns, themes, and insights that emerged from the participants' responses. NVivo 12 enhanced the efficiency and rigour of the data analysis process, providing a comprehensive understanding of the impact of technology-mediated dialogic peer feedback on the development of evaluative judgement in English argumentative writing among ESL/EFL students.

This study adopted a thematic analysis approach for the semi-structured interview data analysis, which harmoniously blended inductive and deductive coding methods to comprehensively understand the identified themes (Fereday & Muir-Cochrane, 2006). The analysis involved exploring emergent themes by combining inductive and deductive coding techniques. This meticulous approach facilitated a deeper exploration and interpretation of the themes, enhancing the validity and reliability of the study's findings.

The primary method employed was inductive analysis throughout the coding process, allowing themes to emerge naturally from the original data without preconceived expectations or prior constraints. This approach facilitated a comprehensive data exploration, enabling themes to arise organically from the information collected. Additionally, deductive analysis was

conducted during the research process to incorporate these derived themes within the theoretical framework. This process involved aligning the emergent themes with relevant theoretical concepts or frameworks, enriching the analysis, and providing deeper insights into the research subject. The researchers opted for the established Peer Feedback Orientation Template (Kasch et al., 2022, 2023), which includes the predefined themes and subthemes outlined in Table 2. These four fundamental dimensions of peer feedback orientation were guiding principles for the subsequent analysis. Moreover, this study re-evaluated the interpretation and quantity of dimensions influencing participants' receptiveness, considering the perspectives of both receivers and providers of feedback. By incorporating multiple perspectives, the study benefited from a broader range of viewpoints, potentially uncovering additional dimensions or nuances within the data. This comprehensive analysis approach contributed to the robustness and depth of the study's findings, ensuring that the insights obtained were well-supported and offered valuable contributions to technology-mediated dialogic peer feedback in English argumentative writing.

RESULTS AND DISCUSSION

In the present study, 72 codes were generated from transcribing and coding the responses regarding the meaning of peer feedback orientation dimensions. Two researchers clustered the codes into meaningful subthemes within each feedback orientation

Table 2
Peer feedback orientation template

Themes	Utility	Accountability	Social Awareness	Self-efficacy
Definitions	The personal added value a student perceives for his/her learning process by engaging in peer feedback.	A student’s sense of responsibility for his/her learning process and that of a fellow peer.	A student’s social connection with the group and/or peer and seeing peer feedback as a social process.	A student’s confidence in his/her knowledge and skills to provide valuable feedback.
Subthemes	<ul style="list-style-type: none"> • Teacher role • Learning with feedback • Feedback is tailor-made • Creating meaning • Feedback moment 	<ul style="list-style-type: none"> • Influence of the process on your accountability • Things you hold the other accountable for • Things you hold yourself accountable for 	<ul style="list-style-type: none"> • On a group level • Behaviour that contributes positively to social awareness • Behaviour impairing social awareness 	<ul style="list-style-type: none"> • Your role as a giver • Your role as a receiver • Self-efficacy for the giver and receiver • Context prerequisites for self-efficacy

Source: Kasch et al., 2023, p. 273

dimension. In contrast to Kasch et al. (2022, 2023), participants in this study interpreted peer feedback orientation differently regarding the domain of accountability. Because of the online peer-learning context, participants highlighted the difficulty of allocating time for group tasks and how they overcame these challenges by utilising digital tools. In Table 3, the sub-themes are categorised into four dimensions of technology-mediated dialogic peer

feedback, and these sub-themes are further discussed in the following sections about the challenges and benefits associated with peer feedback in a digital environment.

Challenges of Technology-mediated Dialogic Peer Feedback

Engaging in technology-mediated dialogic peer feedback presented several challenges for students. First, within the self-efficacy theme, for many participants,

Table 3
Subthemes of peer feedback orientation to technology-mediated dialogic peer feedback

Themes	Utility	Accountability	Social Awareness	Self-efficacy
Subthemes	<ul style="list-style-type: none"> • Gaining different perspectives • Reflecting on one’s writing • Enhancing skills in argumentative writing 	<ul style="list-style-type: none"> • Managing the progress of learning tasks within the groups • Coordination in the online learning environment 	<ul style="list-style-type: none"> • Socio-affective constraints • Facilitating an interactive dialogic peer feedback experience 	<ul style="list-style-type: none"> • Lacking prior experience in giving constructive feedback • Seeking guidance on how to use teacher feedback to improve their ability • Inadequate quality of peer feedback

Source: Authors’ work

especially those without prior experience in giving constructive feedback to peers, self-motivation was essential to develop effective strategies to engage in the peer feedback process and provide useful feedback comments. The core problem is the inadequate quality of the feedback content provided by learners. Some scholars are concerned that peer feedback is incorrect, irrelevant, ambiguous, and too focused on local issues (Yu & Lee, 2016; Zhang & Cheng, 2020). To overcome these drawbacks, students should actively engage in learning from the feedback provided by their teachers, as teacher feedback plays a crucial role in guiding their approach to peer feedback (Yang et al., 2023). The following excerpt from Eillen illustrates it.

To be honest, I didn't know how to comment on other people's articles at that time, and I didn't know whether we should write positive or negative aspects. These worries left me at a loss as to where to start, but the lecturer then taught us how to comment and gave feedback on other people's articles, such as whether the introduction part is too long whether the logic is strong, et cetera.

Eillen's journey is a compelling testament to the profound transformative influence of adept teacher guidance on nurturing participants' feedback proficiencies. By receiving well-structured instruction and support, students like Eillen overcame their initial reservations

and developed the confidence to provide substantial and constructive feedback to their peers. Eillen's excerpt offers reassuring evidence to support Xie et al.'s (2024) contention that students can improve their skills as peer reviewers through adequate training and individual guidance over an extended duration. This finding counters the criticism of students' inability to offer substantive and constructive feedback. This hands-on experience highlights a fundamental truth: Educators, through their proactive involvement, hold the key to fostering and empowering students to actively engage in technology-mediated dialogic peer feedback processes (Yang et al., 2023). Integrating a pedagogical approach is about the technology and the holistic facilitation of students' feedback abilities. This guidance will enhance their feedback skills and elevate the overall quality of their peer learning interactions. It resonates strongly with the insights shared by Xie et al. (2024), who elucidate that effective teacher coaching and feedback form an iterative process marked by initial guidance on expectations, ongoing clarification of these expectations, and feedback on performance. This cyclic engagement nurtures the participants' abilities and emphasises the pivotal role instructors play in creating an environment where feedback serves as a dynamic tool for development and learning.

Second, within the social awareness theme, socio-affective traditions could act as barriers that hinder the participants from fully accepting constructive feedback from

others in an open-minded manner. Peer feedback is embedded in a specific socio-cultural context where culture plays a key role. According to Hu and Lam (2010), students' writing revisions may be affected by a combination of cultural and social differences within peer learning interactions and meaning negotiation. These issues relate specifically to collectivism, interpersonal harmony, and face-saving. Esfandiari and Myford (2013) attribute this phenomenon to the influence of Asian culture, which prioritises others over self. Consequently, students in this cultural context often hesitate to criticise their peers. Recognising and addressing these cultural barriers is pivotal, as it facilitates the development of an open mind towards peer feedback, fostering an environment conducive to productive dialogic peer feedback sessions. Tina articulately conveyed her culture-related apprehensions concerning peer feedback.

We were having some problems with the elaboration and the peer review helped us make it better. The feedback providers were nice and straightforward, which I personally like better than beating around the bush.

Tina's experience illustrates the importance of creating a safe and respectful environment for sharing feedback in peer learning interactions. By acknowledging and respecting socio-affective factors, the participants could create a collaborative and supportive space for exchanging constructive

opinions (Cheng & Zhang, 2024; Zhang & Cheng, 2020). This inclusive approach fostered a positive learning environment where the participants openly received and gave feedback, enhancing the overall quality of their argumentative writing. Hu and Lam (2010) stressed the importance of avoiding sweeping generalisations concerning local cultural educational norms and the associated learning practices. Such broad assumptions can stifle the exploration of diverse learning prospects and obscure the constructive attitudes exhibited by ESL/EFL learners towards peer feedback.

Finally, within the accountability theme, one notable challenge stemmed from the objective condition, which relied on network technology to substitute face-to-face communication. It led to coordination issues in managing the progress of learning tasks within the groups and adhering to a common schedule. The participants had to navigate these challenges to ensure effective collaboration and productive feedback sessions. Below are the experiences of two participants, Amber and Vivian, who encountered and overcame some of these challenges while participating in the technology-mediated dialogic peer feedback.

Personally, I am the type of person who likes to do my work at a fast pace, so that it will be done in time and we would have extra time to look back and improve our work. My team members noticed my habit and tried to keep up with my pace, and I am very thankful for that.

After working with them, it made me realise that team communication is so important in completing this assignment. (Amber)

It's very hard to find time to have a discussion at the same time. The strategies that I used to overcome them are my group fixed a time to do this essay writing. We will have a discussion at 8:30 pm every day and spend at least 1 hour 30 minutes doing this. Before the meeting, any of us will be reminded early on WhatsApp. Once we all join to edit Google Docs, we clarify all the problems right away in the chat box of Google Docs. It makes our writing process go smoothly. (Vivian)

Both excerpts demonstrate how they adapted to the challenges of the online learning process. Amber's reflection emphasises the importance of teamwork and effective communication. At the same time, Vivian's experience shows the value of structured planning and utilising digital applications and tools to foster a seamless writing experience. These students' experiences provide valuable insights into the potential solutions for addressing coordination issues and maximising the benefits of technology in the peer feedback process (Wu et al., 2024). As a result of these digital tools, participants overcame the physical inconvenience caused by the COVID-19 lockdown, allowing for greater convenience and flexibility in fitting peer

learning into their daily schedules. It makes technology-mediated dialogic peer feedback a more rewarding and collaborative learning experience.

In a nutshell, when students participate in technology-mediated dialogic peer feedback, they need to navigate various challenges, such as leveraging teacher feedback to enhance their feedback skills, embracing a culturally inclusive mindset to benefit from diverse perspectives, and coping with coordination issues and time management. By addressing these difficulties, students can fully realise the potential of dialogic peer feedback to enhance their learning and writing skills.

Benefits of Technology-mediated Dialogic Peer Feedback

Prior research indicates that feedback providers and receivers exhibit distinct mechanisms when engaging in peer feedback (Latifi et al., 2021; Xie et al., 2024). The learning mechanisms involved in providing peer feedback include initiating problem detection, encouraging problem diagnosis, and modifying strategies. The learning mechanisms associated with receiving peer feedback include obtaining information about current performance, desired performance, and strategies for bridging this gap. It is imperative to scrutinise the advantages of technology-mediated dialogic peer feedback for both roles.

As feedback providers, within the utility theme, they actively evaluated others' essays, provided constructive comments, and reflected on their writing. This collaborative

approach enhanced their understanding of effective writing techniques while fostering a sense of ownership and responsibility for their learning process. Vivian's experience exemplifies the benefits of providing feedback.

I have also learned some new things based on peer feedback. Different people have different perspectives of thinking. I get an opportunity to learn new thoughts by seeing others' essays. For example, by reviewing Group 5's essay, I feel that by adding a few examples from any studies or research, the essay can become reliable and factual.

They developed critical thinking skills and refined their writing abilities by providing feedback. The process encouraged a growth mindset, fostering a willingness to adapt and improve based on constructive input. In the process of reviewing, feedback providers enhanced their sense of readership, improved their understanding of global issues in writing, and facilitated reflection on personal writing (Cheng & Zhang, 2024). Good peer-written texts can serve as models for feedback providers, while bad texts can help them address similar issues in their writing.

Conversely, as feedback receivers within the utility theme, they gained valuable insights into their writing abilities and areas for improvement. Through peer feedback and peer feedforward, they came to appreciate diverse perspectives and integrate valuable feedback into their

revisions, fostering continuous growth as writers. Joan's perspective illustrates the significance of peer feedback.

Peer feedback activity is extremely beneficial to me since it allows us to converse and evaluate the progression of our writings from the viewpoints of others. Before the peer review session, we thought our essay was all good not realising that we had a bunch of mistakes that needed to be fixed. We also thought that our stance was clear and strong enough. Therefore, I find that it is very important to let others review our essay and receive commentary from them.

Embracing diverse viewpoints fostered a culture of constructive criticism, enabling the participants to develop a growth mindset and embrace opportunities for improvement. By embracing constructive feedback and incorporating valuable insights into their revisions, the participants cultivated a culture of continuous growth and advancement as writers (Latifi et al., 2021). Joan's experience demonstrates that engaging in technology-mediated dialogic peer feedback empowers students to critically assess their work and identify specific areas that may have gone unnoticed. The exchange of ideas and perspectives with peers broadened their understanding of effective writing practices and encouraged a receptive attitude towards constructive criticism. By valuing and incorporating feedback from their peers, the participants became active agents in

their learning journey, fostering continuous improvement and refinement of their writing skills. Additionally, this feedback process nurtured a supportive learning environment where they shared their work and sought feedback without fear of judgement (Wood, 2021, 2022).

In summary, whether acting as feedback providers or receivers, this training process instils in the participants the confidence to perceive themselves as competent evaluators capable of making well-informed judgements about their work and that of their peers. This development is invaluable for personal growth and nurtures essential lifelong learning skills.

CONCLUSION

Due to the small scope and purposeful sampling of this study, there are limitations to the generalisability of some thematic analysis results. Moreover, the research adopted perceptual data that was susceptible to bias, novelty, or researcher effects. Future research may explore the long-term impact of peer feedback practices on a broader range of participants in diverse social and cultural interactions to better understand and promote the sustainability and transferability of peer feedback behaviour in digital and hybrid environments. Furthermore, the practice's effect on the participants' learning outcomes was not investigated due to the present study's narrow focus. An extension of these findings could be achieved by utilising a mixed-methods design to determine the effect of technology-mediated dialogic peer feedback on students' writing performance

improvement. Lastly, emerging technologies such as artificial intelligence and Metaverse transform the learning paradigm. Future research should investigate their potential to improve peer feedback provision and uptake.

Despite the limitations mentioned above, following the new paradigm principles of social constructivism (Xie et al., 2022, 2024), this study has addressed some issues associated with dialogic feedback practices in the field and elucidated a non-exhaustive taxonomy of reasons students may wish to engage in peer feedback. The findings of this study reveal that students responded positively to technology-mediated dialogic peer feedback, even amidst the profound changes brought about by the COVID-19 pandemic, which led to significant shifts in classroom dynamics and language assessment paradigms. As educational institutions navigate the challenges and opportunities presented by online teaching and learning, the findings can serve as a valuable resource to support evidence-based instructional practices and promote student success in the ever-evolving educational landscape. Theoretically, the scarcity of empirical research on peer feedback in cultivating evaluative judgement highlights the significance of this study's results. These findings provide valuable insights for researchers and educators, deepening their understanding of the paradigm shift from summative assessment to formative assessment and sustainable assessment practices. Practically, educators can better understand what may be involved in

feedback uptake through a collaborative effort to address challenges and leverage the benefits of technology-mediated dialogic peer feedback (Wood, 2021, 2022). They can integrate these freely accessible online applications into physical classroom environments, creating a hybrid learning approach. This approach has the potential to optimise the writing experience and equip students with invaluable skills to be good writers.

ACKNOWLEDGEMENT

The authors' thanks go to Najah Zakirah (Universiti Putra Malaysia) who provided valuable assistance by conducting interviews with some participants and transcribing the resulting data.

REFERENCES

- Ajjawi, R., Tai, J., Dawson, P., & Boud, D. (2018). Conceptualising evaluative judgement for sustainable assessment in higher education. In D. Boud, R. Ajjawi, P. Dawson, & J. Tai (Eds.), *Developing evaluative judgement in higher education: Assessment for knowing and producing quality work*, (pp. 7–17). Routledge. <https://doi.org/10.4324/9781315109251-2>
- Boud, D., & Soler, R. (2016). Sustainable assessment revisited. *Assessment & Evaluation in Higher Education*, 41(3), 400–413. <https://doi.org/10.1080/02602938.2015.1018133>
- Carless, D., & Boud, D. (2018). The development of student feedback literacy: Enabling uptake of feedback. *Assessment & Evaluation in Higher Education*, 43(8), 1315–1325. <https://doi.org/10.1080/02602938.2018.1463354>
- Cheng, X., & Zhang, L. J. (2024). Engaging secondary school students with peer feedback in L2 writing classrooms: A mixed-methods study. *Studies in Educational Evaluation*, 81, 101337. <https://doi.org/10.1016/j.stueduc.2024.101337>
- Creswell, J. W., & Creswell, J. D. (2017). *Research design: Qualitative, quantitative, and mixed methods approaches*. Sage Publications.
- Dawson, P., Henderson, M., Mahoney, P., Phillips, M., Ryan, T., Boud, D., & Molloy, E. (2019). What makes for effective feedback: Staff and student perspectives. *Assessment & Evaluation in Higher Education*, 44(1), 25–36. <https://doi.org/10.1080/02602938.2018.1467877>
- Esfandiari, R., & Myford, C. M. (2013). Severity differences among self-assessors, peer-assessors, and teacher assessors rating EFL essays. *Assessing writing*, 18(2), 111–131. <https://doi.org/10.1016/j.asw.2012.12.002>
- Fereday, J., & Muir-Cochrane, E. (2006). Demonstrating rigor using thematic analysis: A hybrid approach of inductive and deductive coding and theme development. *International Journal of Qualitative Methods*, 5(1), 80–92. <https://doi.org/10.1177/160940690600500107>
- Hu, G., & Lam, S. T. E. (2010). Issues of cultural appropriateness and pedagogical efficacy: Exploring peer review in a second language writing class. *Instructional Science*, 38(4), 371–394. <https://doi.org/10.1007/s11251-008-9086-1>
- Huang, Y., & Zhang, L. J. (2022). Facilitating L2 writers' metacognitive strategy use in argumentative writing using a process-genre approach. *Frontiers in psychology*, 13, 1036831. <https://doi.org/10.3389/fpsyg.2022.1036831>
- Kasch, J., van Rosmalen, P., & Kalz, M. (2023). A thematic analysis of factors influencing student's peer-feedback orientation. In O. Noroozi & B. De Wever (Eds.), *The power of peer learning: Fostering students' learning processes and outcomes* (pp. 265–282). Springer. https://doi.org/10.1007/978-3-031-29411-2_12

- Kasch, J., van Rosmalen, P., Henderikx, M., & Kalz, M. (2022). The factor structure of the peer-feedback orientation scale (PFOS): Toward a measure for assessing students' peer-feedback dispositions. *Assessment & Evaluation in Higher Education*, 47(1), 15–28. <https://doi.org/10.1080/02602938.2021.1893650>
- Larsen-Freeman, D. (2016). Classroom-oriented research from a complex systems perspective. *Studies in Second Language Learning and Teaching*, 6(3), 377-393. <https://doi.org/10.14746/ssl.2016.6.3.2>
- Latifi, S., Noroozi, O., & Talaee, E. (2021). Peer feedback or peer feedforward? Enhancing students' argumentative peer learning processes and outcomes. *British Journal of Educational Technology*, 52(2), 768-784. <https://doi.org/10.1111/bjet.13054>
- Liu, C., & Yu, S. (2022). Reconceptualizing the impact of feedback in second language writing: A multidimensional perspective. *Assessing Writing*, 53, 100630. <https://doi.org/10.1016/j.asw.2022.100630>
- Liu, N. F., & Carless, D. (2006). Peer feedback: The learning element of peer assessment. *Teaching in Higher Education*, 11(3), 279–290. <https://doi.org/10.1080/13562510600680582>
- Malaysian Examinations Council. (2019). *Malaysian University English Test (MUET): Regulations and test specifications*. Selangor: Malaysian Examinations Council.
- Rahimi, M., & Zhang, L. J. (2022). Effects of an engaging process-genre approach on student engagement and writing achievements. *Reading & Writing Quarterly*, 38(5), 487-503. <https://doi.org/10.1080/10573569.2021.1982431>
- Sadler, D. R. (1989). Formative assessment and the design of instructional systems. *Instructional Science*, 18(2), 119–144. <https://doi.org/10.1007/BF00117714>
- Tai, J., Ajjawi, R., Boud, D., Dawson, P., & Panadero, E. (2018). Developing evaluative judgement: enabling students to make decisions about the quality of work. *Higher Education*, 76, 467-481. <https://doi.org/10.1007/s10734-017-0220-3>
- Tai, J., Canny, B. J., Haines, T. P., & Molloy, E. K. (2016). The role of peer-assisted learning in building evaluative judgement: Opportunities in clinical medical education. *Advances in Health Sciences Education*, 21, 659-676. <https://doi.org/10.1007/s10459-015-9659-0>
- Vasu, K., Ling, C. H., & Nimehchisalem, V. (2016). Malaysian tertiary level ESL students' perceptions toward teacher feedback, peer feedback and self-assessment in their writing. *International Journal of Applied Linguistics and English Literature*, 5(5), 158-170. <https://doi.org/10.7575/aiac.ijalel.v5n.5p.158>
- Vygotsky, L. S. (1978). *Mind in society: Development of higher psychological processes*. Cambridge: Harvard University Press.
- Wood, J. (2021). A dialogic technology-mediated model of feedback uptake and literacy. *Assessment & Evaluation in Higher Education*, 46(8), 1173-1190. <https://doi.org/10.1080/02602938.2020.1852174>
- Wood, J. (2022). Making peer feedback work: the contribution of technology-mediated dialogic peer feedback to feedback uptake and literacy. *Assessment & Evaluation in Higher Education*, 47(3), 327-346. <https://doi.org/10.1080/02602938.2021.1914544>
- Wood, J. (2023). Enabling feedback seeking, agency and uptake through dialogic screencast feedback. *Assessment & Evaluation in Higher Education*, 48(4), 464-484. <https://doi.org/10.1080/02602938.2022.2089973>
- Wu, J. G., Yang, Z., Wu, S., & Zou, D. (2024). Unveiling the synergy of peer feedback and the Metaverse. *Computers & Education: X*

- Reality*, 4, 100056. <https://doi.org/10.1016/j.cexr.2024.100056>
- Xie, X., Nimehchisalem, V., & Rafik-Galea, S. (2022). Paradigm shifts in peer feedback within learning-oriented language assessment. *ASEAN Journal of Applied Languages*, 1(1), 20-34.
- Xie, X., Nimehchisalem, V., Yong, M. F., & Yap, N. T. (2024). Malaysian students' perceptions towards using peer feedback to cultivate evaluative judgement of argumentative writing. *Arab World English Journal*, 15(1), 298-313. <https://doi.org/10.24093/awej/vol15no1.19>
- Yang, L. F., Zhang, L. J., & Dixon, H. R. (2023). Understanding the impact of teacher feedback on EFL students' use of self-regulated writing strategies. *Journal of Second Language Writing*, 60, 101015. <https://doi.org/10.1016/j.jslw.2023.101015>
- Yu, S., & Lee, I. (2016). Peer feedback in second language writing (2005–2014). *Language Teaching*, 49(4), 461-493. <https://doi.org/10.1017/S0261444816000161>
- Zhang, L. J., & Cheng, X. (2020). A synthetic review of a decade of peer feedback research in China: Looking back and looking forward. *Journal of Xi'an International Studies University*, 28(1), 48–56.
- Zhu, Q., & Carless, D. (2018). Dialogue within peer feedback processes: Clarification and negotiation of meaning. *Higher Education Research & Development*, 37(4), 883-897. <https://doi.org/10.1080/07294360.2018.1446417>

Representation of Social Actors in COVID-19 Speeches by Southeast Asian Political Leaders

Anis Shahira Bazlan^{1*} and Amirah Athirah Amir Yazid²

¹*Academy of Language Studies, Universiti Teknologi MARA Negeri Sembilan Branch, Kuala Pilah Campus, 72000 Kuala Pilah, Negeri Sembilan, Malaysia*

²*Academy of Language Studies, Universiti Teknologi MARA Perak Branch, Seri Iskandar Campus, 32610 Seri Iskandar, Perak, Malaysia*

ABSTRACT

The World Health Organization declared COVID-19 as an infectious disease outbreak that started in Wuhan, and it became a global pandemic on 11 March 2020. A significant number of studies have been done on this disease. However, scholarly research on the representation of social actors in the Southeast Asia political discourse is limited. Thus, this study examines how social actors in relation to COVID-19 are represented in speeches by Southeast Asian political leaders from Brunei, Indonesia, Malaysia and Singapore. A selection of two categories adopted from van Leeuwen's (2008) Representational of Social Actors is chosen to examine the representation of social actors on COVID-19 portrayed in Southeast Asia. A total of 32 transcripts of speeches on COVID-19 were gathered from official government websites over seven months, from 11 March 2020 until 30 September 2020. The speeches are analysed and categorised accordingly into exclusion and role allocation. It was discovered that despite the inclusion of all social actors as playing dynamic and active roles, the government, citizens, and COVID-19 are excluded in the discourse in accentuating the actions rather than the doers. The results of this research are valuable in understanding the ideology and power status in the ways political leaders view and address social actors in their speeches, particularly in Southeast Asia.

Keywords: COVID-19, political speeches, representations, social actors, Southeast Asia

ARTICLE INFO

Article history:

Received: 25 January 2024

Accepted: 21 July 2024

Published: 15 November 2024

DOI: <https://doi.org/10.47836/pjssh.32.4.20>

E-mail addresses:

anisshahira@uitm.edu.my (Anis Shahira Bazlan)

amirahathirah@uitm.edu.my (Amirah Athirah Amir Yazid)

*Corresponding author

INTRODUCTION

In 2020, countries worldwide were shut down for months due to the global pandemic, first detected in Hubei province, China. It started in early December 2019, and the disease was detected among the residents of Wuhan City, spreading rapidly from just a single city in China to almost all regions

worldwide. With the sudden significant increase in positive cases worldwide, the World Health Organization (WHO) declared COVID-19 a pandemic in global health issues on 11 March 2020. Since then, the media has strived to seek mass consideration and persuade public opinion regarding the coverage of coronavirus (Atasoy, 2020) as it informs the public on what to think and affects what the public thinks about it (Chaiuk & Dunaievskaya, 2020). Print and electronic media worldwide have spread awareness and information about this outbreak. The media coverage of COVID-19 has influenced public emotions, leading to fear and a perception of the disease as a mortal danger (Singer, 2020). It has affected not only personal relationships, international collaboration, and industrial regulations (Aazam et al., 2020) but also societal distance, financial difficulties, political and economic implications, public health emergencies and the loss of many lives.

Tucker (1968) and Pillai (1996) assert that crisis situations call for charismatic leaders, who refer to exceptional political figures who are capable of relieving the tension and uncertainty of the public by offering inspiring hopes and strategies for the future (as cited in Tortola & Pansardi, 2019). In this situation, political leaders play an important role in communicating and disseminating information to the audience, particularly public citizens, as they reflect the image of their respective organisations or government institutions, hence obtaining more followers. Political leaders with different political and socio-

cultural backgrounds utilise language in their speeches with the objectives of influencing, particularly persuading their audience and assuring them of the honesty and integrity of the governments.

Given the situation regarding the impacts of COVID-19 occurring from 2019 to 2021, it is very important for political leaders to have a better comprehension of language use, varieties, patterns and functions in speeches and interactions, as language can serve as a type of social practice used to control, convince, and shape the views and attitudes of individuals. Moreover, it is a communicative method to explain something, persuade others, give promises, make compliments and other social objectives (Olimat, 2018; 2019a; 2019b, as cited in Olimat, 2020).

Globally, politicians have attempted to disseminate information on COVID-19 pandemic issues, especially on providing updates to the public and calming down their respective public citizens. For instance, the responses from the Mauritius government have shown that the government has been employing prevention strategies (screening of passengers, restriction of borders, closure of schools, confinement of population), outbreak management strategy and communication strategy that look into community engagement, prevention of fake news and outbreak control (Sun & Wah, 2020). Besides that, President Xi Jinping of China has demonstrated the usage of more positive and appreciative vocabulary in his speeches on COVID-19 (Jinshuang & Rong, 2020). It is significant as it shows

the government's efforts in fighting this pandemic, thus showing a positive role in the construction of China's image.

Consequently, there is a need to investigate how the political leaders in the Southeast Asia region address their speeches through the portrayal of social actors focusing on political leaders, the government, citizens and COVID-19 with respect to this pandemic as a global phenomenon. Language is not perceived as a straightforward way to portray reality but rather as a powerful tool for maintaining or challenging power structures and dominance within society (Zghayyir, 2016). In this context, the language used by political leaders in their speeches can influence the social and political dynamics of public citizens regarding the level of seriousness of COVID-19. Furthermore, it is crucial to conduct such a study among these four Southeast Asian countries as this will provide a guideline for improvement for the governments and various stakeholders in public health response. The role of the leaders in handling and reminding the citizens about the disease outbreak is essential for the successful implementation of policies in a country (Sun & Wah, 2020). Therefore, this study aimed to examine how social actors in relation to COVID-19 were represented in speeches by Southeast Asian political leaders from Brunei, Indonesia, Malaysia and Singapore.

LITERATURE REVIEW

Political discourse is the talk or text of politicians and political institutions coming

from Presidents, Prime Ministers, political parties or other government parastatals at local, national and international levels (van Dijk, 1997). According to Hongyu (2016), it is highly political due to its formal expressions of leaders' perspectives, which express political opinions to their followers. In this sense, all leaders, politicians of countries, nations and organisations use speeches to communicate with their followers, thus acting as an important tool for politicians to captivate and maintain their followers, ensure their loyalty and seek future support (Taiwo, 2009). Biria and Mohammadi (2012) posit that political discourse is characteristically peculiar among public speeches as orators must make an appeal to both personal and emotional aspects of their audience (as cited in Adegbite, 2019) by manipulating their orations in a way that formulates their perceptions, beliefs and ideologies (Capone, 2010). Moreover, van Dijk (2015) claims that if the political field is deeply influenced by ideology, then its political practices and discourses are also influenced by ideology. It means that politicians engage in power struggles to achieve their desired objectives, establish guidelines for societal values, obtain regulatory approval for resource distribution and incorporate ideological agendas into their decision-making processes (Sajjad, 2015). In other words, ideology is explicitly filled in all political activities, especially political speeches, as there is a bilateral connection between political ideologies and political discourses.

Besides, the language of political leaders consists of many filters and layers. It has the potential to both misrepresent and portray realities, as well as to construct visions and imaginaries that can be utilised to alter realities and, in some instances, enhance the well-being of humans (Fairclough, 2013). However, Fairclough (2013) also adds that language can serve as a rhetorical tool to obscure and manipulate realities ideologically to encourage unjust power relations. Thus, there is a strong connection between language and politics, as Bello (2013) emphasises, as language acts as the medium through which political activity takes place.

It is also important to look at how social actors are represented in discourses as the representations offer not only to depict the events occurring but also to evaluate, justify and assign intentions to actions, which often obscure the actual social behaviours being observed (van Leeuwen, 2008). In his framework, social actors are often represented by abstract or concrete nouns that do not directly indicate “human,” such as authority, government or citizens. When this happens, it provides various purposes, such as adding impersonal authority to their actions and giving positive or negative connotations to their quality or activities. Therefore, this helps in the formation of perceptions about the identity of social actors (Gong et al., 2023). Instead of focusing on the linguistic categories (such as categories of transitivity) and the linguistic operations (as in nominalisation and passive agent deletion), van Leeuwen

(2008) emphasises comprehending the socio-semantic inventory of the ways in which social actors can be represented and establishing the sociological and relevance to the different categories in terms of the way they are linguistically realised. It helps reveal the complicated methods by which language constructs and reflects social realities, providing significant perspectives into the dynamics of discourse and social power relations.

A lot of studies have been conducted on how various political leaders with different backgrounds constructed their political speeches in the Asian, Eastern and Western contexts (Al-Majali, 2015; Banguis-Bantawig, 2019; Darweesh & Muzhir, 2016; Manzano & Orquijo, 2020). The research focused mainly on the discursive, persuasive and linguistic styles of all political leaders. Among the studies, Darweesh and Muzhir (2016) have investigated the representation of the Syrian crisis in the political speeches of Barack Obama, John Kerry and Hillary Clinton. Significantly, the findings have found that all the speeches delivered on the Syrian crisis “have not been neutral” (p. 40) as the American political figures have been manipulatively employing negative ideology, creating “negative other-representation and positive self-representation” through various linguistic and discourse markers.

In regard to the representation of social actors in COVID-19 speeches, previous studies have been done looking at the representation of diseases from the linguistics perspective, such as in

Ebola by Moodley and Lesage (2020) and Wonnah (2018), SARS by Joye (2010) and Lean (2007) as well as in COVID-19 by Berrocal et al. (2021) and Zahra and Abbas (2022). The representation of Ebola in the news reports showed that the emotive involvement with Ebola in the media illustrated how medical discourse indirectly became political and ideological as it reinforced the ideas of Ebola as “a form of terrorism and othering” (Kamalu, 2016, as cited in Moodley & Lesage, 2020, p. 2). Such emotive reinforcement was also seen in Germany and Spain’s daily newspapers as the discourse producers preferred to use “fear as a decisive factor” on the COVID-19 virus in influencing the public’s emotions as well as continuously presenting China as the source of global health issue (Atasoy, 2020, p. 12). It eventually created a negative representation of COVID-19 towards China. In a way, these studies showed how political leaders, government and media had a great impact on the emotive engagement of the public and consequently enabled the country to deal with the COVID-19 pandemic constructively.

Several studies have been conducted on COVID-19 from the perspective of linguistics, looking at Singapore’s Prime Minister speeches (Ala’yun, 2020), Indonesia’s President press statements (Megah & Mohd Noor, 2020), Malaysia and Singapore’s leaders’ public broadcasts (Rajandran, 2020), Malaysians public letters (Joharry & Turiman, 2020), Malaysia’s newspapers (Mohd Nor & Zulcaffi, 2020), and many others. Moreover, Gong et

al. (2023) mentioned in their study that narratives play a huge role in social representation and have a huge impact on public perceptions, policy responses, and the construction of social realities during crises such as the COVID-19 pandemic.

One of the limitations of this research is the limited amount of research done on political leaders in Southeast Asia, especially in Brunei, Indonesia, Malaysia, and Singapore during its peak pandemic season. It is fundamental to look into how diseases and illnesses are portrayed because these are not described in neutral, objective terms (Lyons, 2000). Instead, they are commonly communicated in terms of ideologies or discourses that reflect different social interests. As such, understanding how the media and other politicians represented health, illness, and disease, as well as the ideologies and power relations embedded in the representations, is important in comprehending politicians’ choices.

MATERIALS AND METHODS

A qualitative study was adopted in this study as it helped in the analysis and interpretation of texts to discover the meaning of patterns about a certain phenomenon (Auerbach & Silverstein, 2003). As a result, the ideologies and agenda of the texts were revealed. Purposive sampling was applied in the selection of data to unveil the meaning of patterns by selecting four Southeast Asia countries, Brunei, Indonesia, Malaysia and Singapore, due to their shared common similarities in ethnic, historical, linguistic, religious and cultural diversity, thus helping

to generate an in-depth understanding of the research topic. Additionally, research within this area is limited in the context of Southeast Asia regions. Therefore, this research investigates the representation of social actors focusing on the political leaders, government, citizens, and COVID-19 in the speeches of Southeast Asian political leaders from Brunei, Indonesia, Malaysia and Singapore. Political leaders involved were Prime Minister Hassanal Bolkiah (Brunei), President Joko Widodo (Indonesia), then Prime Minister Muhyiddin Yassin (Malaysia) and Prime Minister Lee Hsien Loong (Singapore). These are referred to as political leaders who represented the voice of their constituents as they steered their governments as rulers of their countries at that time.

According to Potter and Wetherell, there is no definite limitation on the number of texts to be analysed as long as the corpus adequately supports the research objectives (Jørgensen & Phillips, 2002). Therefore, a total of 32 transcripts of speeches delivered by the heads of governments in Brunei, Indonesia, Malaysia and Singapore with relation to the issues of the COVID-19 pandemic, focused on the public, were gathered from each government website (Brunei: <http://www.pmo.gov.bn/>, Indonesia: <https://setkab.go.id/en/>, Malaysia: <https://www.pmo.gov.my>, Singapore: <https://www.pmo.gov.sg>) in the span of seven months from 11 March 2020 until 30 September 2020. The speeches were collected during that period, as 11 March 2020 was the day when WHO (World Health

Organisation) declared this virus a pandemic and marked the beginning and peak of COVID-19 worldwide (Rajandran, 2020). Due to that, political leaders are required to be proactive in giving public speeches and announcements to the citizens of the country in combatting the pandemic. Moreover, their political speeches symbolise their respective political discourse. Although the number of speeches selected for each country was imbalanced due to the differences in the number of COVID-19 cases in each country and the approaches used by the governments depending on the country's population, the number of speeches selected for Brunei, Indonesia, Malaysia and Singapore's political leaders were relevant as it can provide an in-depth information supporting the research objectives (Table 1).

Table 1
Description of sample

Country	Number of Speeches Selected	Language of the Speeches
Brunei	2	Malay
Indonesia	9	English
Malaysia	15	Malay and English
Singapore	6	Mandarin and English
Total	32	-

*Source: Speeches selected were taken from Brunei, Indonesia, Malaysia and Singapore's Government websites

In the data analysis, speeches in languages other than English were translated and checked twice by translators who were native speakers of those languages.

Prior to selection, the speeches were refined based on several criteria, such as the similarities of the four countries, the presidents and prime ministers of the countries and the duration of the peak of COVID-19 globally. Additionally, the selection of speeches reflected public speeches addressing public citizens with a common goal: to inform and disseminate information on the outbreak and strategies planned for COVID-19. These speeches were fundamental as they can be analysed to evaluate the rationale of political leaders composing them in handling and managing the situation in terms of discursive strategies and linguistic tools, thus uncovering the speeches' hidden ideology and political agenda.

The analysis of speeches was grounded in critical discourse studies (CDS), which used critical discourse analysis (CDA). CDA explored the relationship between text structures and strategies, as well as social, political and cultural structures and processes. Moreover, CDA believes texts result from social and political contexts and have constitutive power in shaping cognition and influencing relations among various social groups (van Dijk, 1998; Fairclough, 1995). Thus, a qualitative study of the representation of social actors by van Leeuwen (2008) was adopted to demonstrate how the social actors in relation to COVID-19 were represented in the speeches of the four political leaders. This theory examined how social actors were depicted in discourse by analysing their sociological descriptions and linguistic

realisations, hence facilitating the analysis of power relations in political discourse and unveiling underlying political ideologies and agendas. This framework offers ten categories of how social actors were portrayed in the texts and their semantic roles (van Leeuwen, 2008), such as inclusion and exclusion, role allocation and genericisation and specification.

Notably, the language used to represent social actors was studied, where the social actors in the sentences could be represented as subjects or objects and even excluded linguistically. Therefore, the social actors in the speeches were observed through the two representational categories of exclusion and role allocation as they had the most occurrences when analysed. Ahlstrand (2019) also suggested that this approach provides a “comprehensive set of tools for analysis” (p. 22), as these tools were developed and applied in ways that were tailored to achieve the aims and context of this current research.

Reflecting van Leeuwen's framework, the exclusion of social actors can be radical, completely omitting social actors, or less radical, mentioning them elsewhere without linking to specific actions, with a purpose tailored to their targeted audience (van Leeuwen, 2008). It is achieved linguistically through passive agent deletion ('Capacity of referral hospitals will be increased, be it the numbers of rooms, equipment, medicines and human resources'), non-finite clauses that function as a participant ('Although the number of new cases of COVID-19 is declining, the risk of increased

infection rates remains’), and nominalisation (‘The implementation of social assistance programs aims to ease the burden on the communities and boost productivity of the people’s economy’). The main distinction is that social actors are entirely absent in suppression, while in backgrounding, they are referenced elsewhere in the text. As for role allocation in discourse, it assigns roles to social actors as either active participants or passive recipients of actions through the usage of prepositions or nominalisations, while passivation treats actors as objects or affected parties. Rooted in Halliday’s Systemic Functional Grammar (SFG), this concept categorises actors in various processes and can rearrange social roles and relationships in representations (van Leeuwen, 2008). Activation depicts actors dynamically involved in actions, like ‘Singaporeans’ in ‘many Singaporeans stepped up to help others.’ At the same time, passivation shows actors as receiving or undergoing actions, like ‘COVID-19’ in ‘prevent the spread of COVID-19’.

Political leaders, the government, citizens and COVID-19 were the emphasised social actors throughout the speeches. In identifying which sentences fell within one of the categories of exclusion and role allocation, the researchers relied on the definitions of categories provided by van Leeuwen (2008). Based on these sources, all relevant sentences involving the social actors related to the two representational categories were extracted and grouped by their respective categories. For instance, related sentences fell into the

representational category of exclusion through being realised by passive agent deletion (such as, “Capacity of referral hospitals will be increased, be it the numbers of rooms, equipment, medicines, and human resources”) was retrieved from one of the speeches in which it existed, thus indicating the exclusion of the government as a social actor.

The number of occurrences was indicated and explained using examples. The frequency distributions of the social actors were calculated and compared with one another for their number of occurrences and representational patterns. The results of these text analyses were discussed in relation to the way social actors of the political leaders, government, citizens and COVID-19 were portrayed in the speeches to better understand the embedded power relations in COVID-19 discourse.

RESULTS

The results were based on representational categories of social actors following the two categories of van Leeuwen’s framework (2008): exclusion and role allocation of social actors.

i. Exclusion

Exclusion can be distinguished into two subcategories, namely suppression and backgrounding. The former deals with excluding both social actors and their actions, leaving no reference in the discourse, while social actors in backgrounding leave a trace in the discourse. Discourses can be excluded or included in the elements of social practice

to represent certain kinds of actors to suit an individual's interest and purpose (van Leeuwen, 2005, as cited in Ahlstrand, 2019).

In Brunei, social actors of citizens and COVID-19 were excluded in 16 occurrences

throughout the speeches. The findings showed that the citizens of Brunei were mostly backgrounded through passive agent deletion and non-finite clauses that function as participants (Table 2).

Table 2
Excerpts of speeches from Brunei

Brunei	
Excerpt 1	<i>“Sumbangan-sumbangan akan digunakan untuk keperluan perubatan menanganai wabak”</i> [Donations will be used for medical needs to deal with the pandemic]
Excerpt 2	<i>“Pemberian elaun khas ini akan berjalan bermula bulan Mac 2020 dan akan dilanjutkan sehingga berakhirnya wabak COVID-19 di negara ini”</i> [This special allowance will start in March 2020 and will be extended until the end of COVID-19 pandemic in this country]

Source: <http://www.pmo.gov.bn/>

In all these cases, citizens and COVID-19 were mentioned elsewhere in the speeches by its actions. In Excerpt 1 above, the act of deleting citizens as active agents in donating was deleted to pinpoint the government's strategy with the donations collected, thus implicitly ignoring their citizens' active participation. However, removing citizens in the form of backgrounding did not invite the audience to think of the social actor receiving the initiatives. In this case, citizens were backgrounded in a way that the public was expected to understand that any kind of assistance provided by the government was to be received by all citizens; hence, the real recipients were deleted to drive the audiences' attention towards the government's contributions.

COVID-19 was also excluded in Brunei speeches through passive agent deletion and nominalisations, as seen in Table 3.

Such instances indicated that COVID-19 as a social actor in the action was hidden to accentuate the impacts of its attack on the citizens and country. COVID-19 was perceived negatively by mentioning the deceased person and using the expression *“dilanda”* [hit] as two of the impacts of the COVID-19 attack. Evidently, these proved that the social actor was excluded to suit the interests and purposes of the speaker. In this context, the speaker would like to highlight the government's contributions to the country and the danger of COVID-19, which eventually excluded such actors as ideologically motivated.

In Indonesia, 24 occurrences of exclusion of citizens were noted in the speeches of the President of Indonesia. Based on the findings, passive-agent deletion was the tactic most used to exclude citizens. Here, the social actors' agent was excluded, thus

Table 3

Excerpt of speech from Brunei

Brunei	
Excerpt 3	“ <i>Brunei kini, juga telah turut dilanda</i> ” [Brunei now has been hit]

Source: <http://www.pmo.gov.bn/>

confusing the audience about the agency of the actions. However, the audience could reasonably infer from the context of COVID-19 that the agents probably concerned the citizens due to the instructions given as actions needed to be followed (Table 4). These further accentuated the actions needed to be taken by the citizens instead of focusing on the doers.

Similarly, the government was excluded from enhancing its contributions, thus showcasing its active role. These instances, which excluded the government as social actors, tended to shift the focus towards the doers' actions, which was crucial in the current situation with the end goal of curbing the transmission of the COVID-19 (Table 5).

Table 4

Excerpts of speeches from Indonesia

Indonesia	
Excerpt 4	“Physical interaction must be reduced”
Excerpt 5	“Do the activities limitedly, but follow health protocol strictly”

Source: <https://setkab.go.id/en/>

Table 5

Excerpts of speeches from Indonesia

Indonesia	
Excerpt 6	“The implementation of social assistance programs aims to ease the burden on the communities and boost the productivity of the people's economy.”
Excerpt 7	“Handling public health problems remains our top priority.”

Source: <https://setkab.go.id/en/>

Excerpt 6 showed that nominalisation allowed the social actor to be excluded. However, the audience could assume who the social actor would be in working out the programs as the actions left traces and references of the social actor in the speeches later. As for Excerpt 7, the downgrading

of the process using the gerund form of the verb ‘to handle’, enables the social actor responsible for the ‘handling’ of the virus outbreak to be excluded. Moreover, the second clause further enhanced the backgrounded form of the government through the pronoun ‘our’, thus revealing

the identity of the social actor. Therefore, by transforming the clause into a grammatical participant, the government as a social actor responsible for the action was excluded.

In the case of Malaysia, 91 occurrences of exclusion were found throughout the speeches by the Malaysian Prime Minister via passive agent deletion, non-finite clauses and nominalisations for deleting social actors of citizens and the government. The deletion of citizens in the actions of practising new norms illustrated that the speaker intended to highlight the importance of the actions

so that the number of positive COVID-19 cases could be reduced. Moreover, Excerpt 8 demonstrated the exclusion of citizens that was realised through non-finite clauses by the gerund form of the verbs ‘to practice social distance’ and ‘to hang out’, enabling the citizens responsible for such actions to be excluded; hence, the audience could be assumed reasonably of who they were (van Leeuwen, 2008). In addition, the deletion of citizens intensified the actions, thus creating a direct and straightforward speech (Table 6).

Table 6
Excerpt of speech from Malaysia

Malaysia	
Excerpt 8	“ <i>Elakkan melepak dengan kawan-kawan di restoran, di kopitiam, di pusat hiburan atau di mana-mana tempat yang boleh mendatangkan saudara-saudari kepada jangkitan wabak COVID-19</i> ” [Avoid hanging out with friends at restaurants, coffee shops, entertainment centers or anywhere that could expose yourselves to the COVID-19]
Excerpt 9	“ <i>Penjarakan sosial, penggunaan pelitup muka di tempat awam dan membasuh tangan menggunakan sabun atau hand sanitizer merupakan kebiasaan baharu yang mesti diamalkan</i> ” [Social distancing, the use of face masks in public places and hand washing with soap or hand sanitizer are new habits that must be practiced]

Source: <https://www.pmo.gov.my>

Apart from that, the government in Malaysia was hidden in several instances to accentuate the assistance and aid that the government had helped in dealing with COVID-19, thus creating an image of a government that is deeply concerned with the citizens (Table 7). Here, passivation was used intensely rather than active structure to focus on the efforts without any attention to the social actor, ‘the government’. The excluded social actor could have been included through postmodifying phrases

with by and of, but it had not been. With regard to that, the government and citizens were excluded in most situations to suit the speaker’s political agenda.

In the analysis of speeches delivered by Singapore’s Prime Minister, 71 occurrences of exclusion were noted from the discourse. In this context, Singaporeans as citizens were seen to be exempted from the actions to highlight the actions needed to be obeyed in all seriousness to curb the spread of COVID-19, as seen in Excerpt 12.

Besides that, COVID-19 was revealed to be excluded in some instances to accentuate its detrimental impacts in various ways, as seen in Table 8. Therefore, the speaker tended to focus more on the impacts of COVID-19 on his targeted audience, which eventually created a sense of alarm for the public to follow the new norms.

Table 7
Excerpt of speech from Malaysia

Malaysia	
Excerpt 10	<i>“Kluster ini telah merekodkan sejumlah 3,375 kes positif selepas seramai 42,023 individu disaring”</i> [The cluster has recorded a total of 3,375 positive cases after a total of 42,023 individuals were screened]

Source: <https://www.pmo.gov.my>

Table 8
Excerpts of speeches from Singapore

Singapore	
Excerpt 11	“Business closures, retrenchments and unemployment are all likely to go up in the coming months.”
Excerpt 12	“Health checks and quarantines will become the norm.”

Source: <https://www.pmo.gov.sg>

ii. Role Allocation

Role allocation is a category under inclusion that examines the different roles social actors are given in a discourse, which can either be activated or passivated. The following subsections examined the way the political leaders, government, citizens and COVID-19 were activated, subjected and beneficialised.

a. Activation

Social actors were given activated roles as active and dynamic in the activities indicated in the speeches. Activation was realised in three ways: through circumstantialisation of ‘by’ and ‘from’, as well as pre-modification and post-modification of nominalisations.

In addition, an in-depth analysis of the representation of activation by various social actors was observed through transitivity processes such as material, verbal and mental processes.

The usage of circumstantialisation of ‘by’ and ‘from’, material process as well as mental process was found to be highly utilised by political leaders in the portrayal of social actors related to the COVID-19 pandemic in Brunei, Indonesia, Malaysia and Singapore. Findings exhibited that citizens of all four countries were actively depicted through their contributions and cooperation in curbing the COVID-19 pandemic. The contributions were referred to as a process of undertaking actions by

following the measures and precautions stated by the heads of the government and their administrations. The activation of social actors in material processes occurred at the second highest rate. The importance of material processes had been highly emphasised by Nuñez-Perucha (2011) in understanding the exercise of power in relationships, thus revealing “who does what to whom” (p. 110). In this case, verbs such as ‘work’ and ‘fight’ were mainly employed in all four political leaders’ speeches. Active participation by the citizens in obeying the steps and measures was motivated by verbal and mental processes of ‘hope’ and ‘realise’ to connect to the impacts that COVID-19 had on the country.

All four countries’ governments and political leaders were the second most active social actors. The government and political leaders were referred to as the same social actor due to the choice of the pronoun ‘we’, which is referred to as ‘the government and I’ in conveying the government’s plans to the public. These social actors were signified as agents in providing benefits and setting the rules and regulations for the country and its citizens through circumstantialisations, material, verbal, and mental processes. Both social actors were identified via circumstantialisations of ‘from’ and ‘by’, which depicted them as the providers to the country, and this linguistic feature was mainly observed towards the citizens in Brunei and Malaysia.

Furthermore, the government and political leaders were activated through material, verbal, and mental processes,

which signify them as entities that aided the beneficiaries in overcoming the COVID-19 pandemic. It was observed that political leaders were inclined to apply verbal and mental processes in their speeches. For verbal, there were instances of ‘express’, ‘urge’ and ‘address’ whereby they actively communicated their speeches on the subjects of reminding, expressing gratitude, updating and instructing the public. It clearly accentuates the power of government and political leaders as the heads of government in instructing the citizens on what to do, which was also observed in Ahlstrand’s study on Indonesian women’s political discourse (2019). Furthermore, “direct control is achieved through discourses with a directive pragmatic function such as commands, threats, laws, regulations, instructions and more indirectly by recommendation and advice” (van Dijk, 1989, p. 27 as cited in Ahlstrand, 2019). For mental process, several verbs were utilised in the speeches like ‘aware’, ‘hope’, ‘concern’ and ‘believe’ in understanding and sharing the feelings of another with regards to the challenges faced by the people due to COVID-19. Despite reminding and advising the citizens on the danger of COVID-19, political leaders were inclined to include positivism in the speeches using verbs such as ‘hope’, ‘confident’ and ‘believe’ to ensure that citizens would feel slightly at ease with the current issue. Activation in verbal and mental processes exhibited the practice of maintaining power, hence providing greater insight into the intentions and underlying value of the administrations.

Besides that, COVID-19 was found to be predominantly activated using circumstantialisations and material processes. This virus represented the agent in its consequences on the country, especially towards the social, economic, psychological and other aspects through circumstantialisations of ‘from’ and ‘by’. The virus was also represented by the movement it had caused to the countries, thus forming new terms such as new cluster and the largest cluster. It was also noticeable that COVID-19 was signified in terms of its longer duration in the community, where it was mostly assumed to stay longer in the community until a vaccine was to be produced. Moreover, COVID-19 was depicted as an agent of the action or the doer, signifying its impact on the country and community (Table 9).

Table 9
Excerpts of speeches from Brunei, Indonesia, Malaysia and Singapore

Brunei	
Excerpt 13	<i>“Brunei mesti bersedia secara bersepadu untuk membentengi diri daripada wabak ini”</i> [Brunei must be prepared in an integrated manner to protect themselves from this pandemic]
Indonesia	
Excerpt 14	“These programs aim to ease the economic burden of the communities affected by the COVID-19 pandemic.”
Malaysia	
Excerpt 15	<i>“Ia boleh menyerang kita pada bila-bila masa dan di mana-mana sahaja”</i> [It can attack us anytime and anywhere]
Singapore	
Excerpt 16	“COVID-19 has worsened relations between the US and China.”

Source: Speeches selected were taken from Brunei, Indonesia, Malaysia and Singapore’s Government websites

b. Passivation

The passivation of social actors was examined through subjects, representing social actors as objects and beneficiaries. The study found that political leaders from Brunei, Indonesia, Malaysia and Singapore demonstrated the citizens to be mostly beneficialised with a percentage of 28.6%, 39.3%, 19.4% and 35.3%, respectively, in the speeches (Table 10).

The beneficiary status of social actors in this discourse is realised by utilising the prepositions of ‘to’ and ‘for’ (Halliday & Matthiessen, 2004). The status of Indonesian and Singaporean citizens was mostly beneficialised by the assistance they received from their governments, as seen in Excerpts 18 and 20. It accentuated the dilemma of the citizens regarding the consequences of COVID-19 in their lives, which resulted in business closures and

Table 10

Excerpts of speeches from Brunei, Indonesia, Malaysia and Singapore on beneficialised status of citizens as a social actor

Brunei	
Excerpt 17	“ <i>Sumbangan-sumbangan akan digunakan untuk keperluan perubatan menangani wabak</i> ” [Donations will be used for medical needs to deal with the pandemic]
Indonesia	
Excerpt 18	“The government has decided to implement several new social assistance policies, namely Special Assistance for Staple Food from the Central Government for the people of Jakarta.”
Malaysia	
Excerpt 19	“ <i>Saya juga ingin mengambil kesempatan ini untuk merakamkan terima kasih kepada seluruh rakyat Malaysia atas pengorbanan masing-masing untuk memerangi wabak COVID-19</i> ” [I would also like to take this opportunity to thank all Malaysians for their sacrifices in combating the COVID-19]
Singapore	
Excerpt 20	“We have taken emergency measures to help everyone come through the crisis together.”

Source: Speeches selected were taken from Brunei, Indonesia, Malaysia and Singapore’s Government websites

many losing their jobs. With regards to that, the government took proactive measures by assisting in initiatives to help them go despite the current situation; hence, citizens were represented passively in the form of beneficialised participants. However, in Malaysian speeches, the citizens were positively depicted as being appreciated by the government for their cooperation and contributions in dealing with the pandemic using the preposition ‘for’ in Excerpt 19. Furthermore, the citizens were also associated with the verb ‘help’, which signifies their assistance to the country.

In the analysis of Brunei, Indonesian Singaporean speeches on the social actors of COVID-19, the subjected position of COVID-19 was predominantly depicted at

the receiving end with 57.1%, 10.9% and 17%, respectively. This passive placement was intended to highlight the government and the citizens bearing its impact and danger. Moreover, the representation of COVID-19 tends to be signalled with the word ‘fight’ and its synonyms indicating the battle against the disease from all parties: the head of the government, the government and all citizens (Table 11).

Despite being a passive actor, COVID-19 was seen to be beneficialised with a percentage of 80.7% and 47.1% in the Malaysian and Singaporean speeches (Table 12). The status of COVID-19 in Malaysia has primarily depicted a negative representation with the words ‘prevent’, ‘fight’, ‘break’ and ‘control’ associated

with it. This negative representation of COVID-19 has been installed by the Prime Minister and the government towards the citizens. As such, it brings danger and may increase the death rate among the people, and thus, it is crucial for them to combat COVID-19. This situation was also displayed in Singapore’s speeches to highlight the danger and impact it can have towards the people and country.

Table 11
Excerpts of speeches from Brunei, Indonesia, Malaysia and Singapore on subjected position of COVID-19 as a social actor

Brunei	
Excerpt 21	“Beta telah menyebut beberapa usaha Kerajaan Beta dalam membendung penularan COVID-19” [I have mentioned some of my governments’ efforts in curbing the spread of COVID-19]
Indonesia	
Excerpt 22	“Communities play a major role in reducing the number of cases and preventing the spread of COVID-19.”
Singapore	
Excerpt 23	“This NDP is also an opportunity for us to salute those on our frontline, fighting COVID-19.”

Source: Speeches selected were taken from Brunei, Indonesia, Malaysia and Singapore’s Government websites

Table 12
Excerpts of speeches from Brunei, Indonesia, Malaysia and Singapore on the negative representation of COVID-19 as a social actor

Malaysia	
Excerpt 24	“Wabak ini dapat kita kawal kerana saudara dan saudari sekalian mengambil satu tanggungjawab yang serius untuk mencegah COVID-19” [We are able to control this pandemic because all of you take a serious responsibility to prevent COVID-19]
Singapore	
Excerpt 25	“But neither have we been able to eradicate the virus, despite our best efforts.”

Source: Speeches selected were taken from Brunei, Indonesia, Malaysia and Singapore’s Government websites

DISCUSSION

The overall findings in the analysis of political speeches on COVID-19 by leaders from Brunei, Indonesia, Malaysia, and Singapore showed a tendency to exclude citizens as active social actors. Citizens

are often suppressed or marginalised in the discourse, with the focus placed on government initiatives and measures in Brunei. The exclusion of citizens highlights the importance of compliance with government regulations and guidelines.

The citizens' contributions in performing such actions were crucial in combatting the spread of the disease in the countries. However, in Brunei, citizens were excluded to emphasise the government's initiatives towards citizens, thus portraying the citizens as passive beneficiaries. Although they were backgrounded in the speeches, citizens were not radically suppressed as they were depicted as both active and passive social actors, which was seen in their allocated roles. From the analysis, citizens were represented mostly by having to abide by the new norms of COVID-19, indicating their contributions to the country. They were discursively realised through the material process of using words like 'prepare', 'take' and 'work', hence showcasing them as active social actors in the speeches. Citizens were also passivated as recipients of government initiatives, which were signified using prepositions like 'for' and 'to'. This portrayal establishes "an ideological government-citizen binary" (Rajandran, 2019, p. 32) between the government as the provider and citizens as the recipients of initiatives.

Relating to the social actor of government, the government was seen to be working along with the political leaders; hence, active contributions from both social actors were predominantly involved with the assistance, programs and strategies curbing COVID-19, which was realised linguistically via material, verbal and mental processes. However, there were some instances whereby the social actor was excluded in Indonesia and Malaysia,

depicting them as sources of initiative and intensifying the active actions in dealing with the disease.

Through the discourse of COVID-19, political leaders in the four countries, COVID-19 was perceived negatively by the political leaders in their speeches, creating an image of COVID-19 as having significant impacts on people's lives, creating a sense of fear and urgency. In the sentences, such connotations were associated with negative material verbs like 'attack', 'infect' and 'spread'. It indicates that the speeches on COVID-19 in this study had been manipulatively employed to express the negative ideology towards the impression of the disease in Brunei, Indonesia, Malaysia and Singapore, hence proving that political leaders' speeches were not neutral (Darweesh & Muzhir, 2016).

The analysis demonstrates the complex representation of social actors in the COVID-19 speeches delivered by political leaders in Brunei, Indonesia, Malaysia and Singapore, where COVID-19, citizens, and the government with political leaders are predominantly activated. Citizens are depicted as active and passive actors, reflecting the power relations and ideological orientation within the political discourse of these Southeast Asian countries through the speeches of political leaders. It supports van Dijk's (2015) and Fairclough's (2013) claims that political ideologies are deeply embedded in political practices using language, showing a strong connection between language and politics.

CONCLUSION

In conclusion, the present article has examined the COVID-19 speeches qualitatively using critical discourse studies. In the analysis of all the chosen speeches by political leaders of Brunei, Indonesia, Malaysia and Singapore through the discourse examination of the representations of social actors in the issue of COVID-19, the political leaders discussed the COVID-19 issues by representing several social actors such as the government, citizens, political leaders and COVID-19. The results showed that the government, citizens and COVID-19 were excluded, while political leaders, the government, citizens and COVID-19 were included in the speeches. Despite the inclusion of all social actors in dynamic and active roles, the government, citizens, and COVID-19 were excluded from the discourse in accentuating the actions rather than the doers. Moreover, the different occurrences clearly show the negative and positive portrayal or inclination of the speeches towards several social actors, thus demonstrating the political leaders' ideology or stance as current government rulers at the time of data collection.

This article enriches research on political discourse as speeches by Brunei, Indonesia, Malaysia and Singapore political leaders that can be a basis for comparing public speeches delivered by leaders in other Western and Eastern countries. Understanding the dynamics of political discourse during the COVID-19 pandemic in Southeast Asian countries and its implications for governance is significant as it demonstrates

a political leader's power and capabilities through language, thus affecting public perception. By employing critical discourse studies in analysing the speeches by four Southeast Asian political leaders, the study illustrates how language is used to represent social actors and shape public perception. Additionally, by dissecting the language through political leaders' speeches on the actions of specific social actors, this study helps offer insights into how political speeches can influence public opinion and shape policy responses to the pandemic.

Furthermore, it is recommended that future research be done by expanding the analysis using corpus linguistics with a larger volume of speeches and duration of time. It will provide a more comprehensive understanding of political leaders' linguistic patterns and discursive strategies during the pandemic. Besides that, considering the current rulers in each country and their specific political contexts in shaping the societal perception during the recovery and reconstruction of each country after the COVID-19 pandemic can provide a deeper understanding of Southeast Asia's socio-political landscape.

ACKNOWLEDGEMENT

The authors express their sincere gratitude to Universiti Sains Malaysia for providing the facilities and support essential for this research during its initial development. Appreciation is also extended to Universiti Teknologi MARA, Malaysia for its ongoing support during the refinement of this article.

REFERENCES

- Aazam, F., Baig, T., Azam, A., & Azam, Z. (2020). Discourse of fear and economic crisis: A multimodal analysis of Pakistani newspaper's political cartoons of COVID-19. *Linguistics and Literature Review*, 6(2), 35-45. <https://doi.org/10.32350/llr.v6i2.952>
- Adegbite, A. (2019). *Language dynamism: A cross-cultural analysis of political discourse*. [Master's dissertation, Syracuse University]. Syracuse University. <https://surface.syr.edu/thesis/325>
- Ahlstrand, J. L. (2019). *A critical discourse analysis of women, power, and social-political change in the Indonesian online news media*. [Doctoral dissertation, University of Queensland]. UQ eSpace. <https://doi.org/10.14264/uql.2019.334>
- Ala'yun, A.V. (2020). *Critical discourse analysis of speech by Lee Hsien Loong about coronaviruses in Singapore*. [Bachelor's dissertation, Universitas Muhammadiyah Surakarta]. UMS ETD-db. <https://eprints.ums.ac.id/85417/1/PUBLICATION%20ARTICLE.pdf>
- Al-Majali, W. (2015). Discourse analysis of the political speeches of the ousted Arab Presidents during the Arab Spring Revolution using Halliday and Hasan's framework of cohesion. *Journal of Education and Practice*, 6(14), 96-108.
- Atasoy, I. (2020, May 12). Representations of the COVID-19 pandemic in German and Spanish newspaper headlines: A comparative analysis. In *3d International Academic Internet Conference A Person in the Language Space: Historical Heritage, Problems and Development Prospects* (pp. 10-13). Berdiansk, Ukraine. <https://avesis.istanbul.edu.tr/yayin/8a72568c-5b42-41d6-8ec4-f2904d16114a/representations-of-the-covid-19-pandemic-in-german-and-spanish-newspaper-headlines-a-comparative-analysis>
- Auerbach, C. F., & Silverstein, L. B. (2003). *Qualitative data: An introduction to coding and analysis*. New York University Press.
- Banguis-Bantawig, R. (2019). The role of discourse markers in the speeches of selected Asian Presidents. *Heliyon*, 5(3), 1-57. <https://doi.org/10.1016/j.heliyon.2019.e01298>
- Bello, U. (2013). "If I could make It, you too can make it!" Personal pronouns in political discourse: A CDA of President Jonathan's presidential declaration speech. *International Journal of English Linguistics*, 3(6), 84-96. <https://doi.org/10.5539/ijel.v3n6p84>
- Berrocal, M., Kranert, M., Attolino, P., Santos, J. a. B., Santamaria, S. G., Henaku, N., Koffi, A. D. L., Marziani, C., Mažeikienė, V., Pérez, D. O., Rajandran, K., & Salamurović, A. (2021). Constructing collective identities and solidarity in premiers' early speeches on COVID-19: A global perspective. *Humanities and Social Sciences Communications*, 8(1). <https://doi.org/10.1057/s41599-021-00805-x>
- Capone, A. (2010). Barack Obama's South Carolina speech. *Journal of Pragmatics*, 42(11), 2964-2977. <https://doi.org/10.1016/j.pragma.2010.06.011>
- Chaiuk, T. A., & Dunaievskia, O. V. (2020). Producing the fear culture in media: An examination on coronavirus discourse. *Journal of History Culture and Art Research*, 9(2), 184-194. <https://doi.org/10.7596/taksad.v9i2.2636>
- Darweesh, A. D., & Muzhir, H. D. (2016). Representation of the Syrian crisis in the American political speeches: A critical discourse analysis. *International Journal of Language and Linguistics*, 3(1), 40-48.
- Fairclough, N. (1995) *Critical discourse analysis*. Longman.
- Fairclough, N. (2013). *Language and power*. Routledge.
- Gong, J., Firdaus, A., Aksar, I. A., Alivi, M. A., & Xu, J. (2023). Intertextuality and ideology: Social actor's representation in handling of COVID-19

- from China daily. *Journalism*, 24(12), 2741-2761. <https://doi.org/10.1177/14648849231157243>
- Halliday, M., & Matthiessen, C. (2004). *An introduction to functional grammar*. Hodder Arnold.
- Hongyu, M. (2016). An intercultural analysis of meta-discourse markers as persuasive power in Chinese and American political speeches. *International Journal of Language and Linguistics*, 4(6), 2017-219. <http://doi.org/10.11648/j.ijll.20160406.13>
- Jinshuang, L., & Rong, L. (2020). A positive discourse analysis of diplomatic speech of President Xi in COVID-19. *IETI Transactions on Social Sciences and Humanities*, 8(4), 24-31. https://doi.org/10.6896/IETITSSH.202006_8.0004
- Joharry, S. A., & Turiman, S. (2020). Examining Malaysian public letters to editor on COVID-19 pandemic: A corpus-assisted discourse analysis. *GEMA Online® Journal of Language Studies*, 20(3), 242-260. <http://doi.org/10.17576/gema-2020-2003-14>
- Jørgensen, M., & Phillips, L. (2002). *Discourse analysis as theory and method*. Sage.
- Joye, S. (2010). News discourse on distant suffering: A critical discourse analysis of the 2003 SARS outbreak. *Discourse & Society*, 21(5), 586-601. <https://doi.org/10.1177/0957926510373988>
- Lean, M. L. (2007). AIDS and its associates: A discourse representation of the disease. *Critical Approaches to Discourse Analysis Across Disciplines*, 1(1), 19-35.
- Lyons, A. C. (2000). Examining media representations: Benefits for health psychology. *Journal of Health Psychology*, 5(3), 349-358. <https://doi.org/10.1177/135910530000500307>
- Manzano, J. E., & Orquijo, Z. E. (2020). Political commitments and ideologies: A diachronic transitivity analysis of Philippine presidents' inaugural speeches. *Asian Journal of English Language Studies (AJELS)*, 8(1), 83-109. <https://doi.org/10.59960/8.a4>
- Megah S, S. I., & Mohd Noor, S. N. (2020). Representation of social actors of the press statement of the president of Indonesia in the issue of COVID-19 pandemic. *International Journal of English Linguistics, Literature and Education*, 2(1), 79-89. <https://doi.org/10.32585/v2i1.660>
- Mohd Nor, N. F., & Zulcaffi, A. S. (2020). Corpus driven analysis of news reports about COVID-19 in a Malaysian online newspaper. *GEMA Online® Journal of Language Studies*, 20(3), 199-216. <http://doi.org/10.17576/gema-2020-2003-12>
- Moodley, P., & Lesage, S. S. (2020). A discourse analysis of Ebola in South African newspapers (2014–2015). *South African Journal of Psychology*, 1-12. <https://doi.org/10.1177/0081246319868656>
- Núñez-Perucha, B. (2011). Critical discourse analysis and cognitive linguistics as tools for ideological research: A diachronic analysis of feminism. In C. Hart (Ed.), *Critical discourse studies in context and cognition* (pp. 97-118). John Benjamins.
- Olimat, S. N. (2020). Words as powerful weapons: Dysphemism in Trump's COVID-19 speeches. *3L: The Southeast Asian Journal of English Language Studies*, 26(3), 17-29. <http://doi.org/10.17576/3L-2020-2603-02>
- Rajandran, K. (2019). Portraying economic competence in Malaysian federal budget speeches. *GEMA Online® Journal of Language Studies*, 19(1), 17-35. <http://doi.org/10.17576/gema-2019-1901-02>
- Rajandran, K. (2020). 'A Long Battle Ahead': Malaysian and Singaporean prime ministers employ war metaphors for COVID-19. *GEMA Online® Journal of Language Studies*, 20(3), 261-267. <http://doi.org/10.17576/gema-2020-2003-15>
- Sajjad, F. (2015). A critical discourse analysis of Barack Hussein Obama's political speeches

- on the Middle East and the Muslim World. *International Journal of Linguistics*, 7(1), 1-41. <http://dx.doi.org/10.5296/ijl.v7i1.6856>
- Singer, N. (2020). Coronavirus media discourse and current situation (QCA for different responses to combat COVID-19). *Humanities & Social Sciences Reviews*, 8(3), 665-675. <https://doi.org/10.18510/hssr.2020.8371>
- Sun, M. C., & Wah, C. B. L. C. (2020). Lessons to be learnt from the COVID-19 public health response in Mauritius. *Public Health in Practice*, 1, 100023. <https://doi.org/10.1016/j.puhip.2020.100023>
- Taiwo, R. (2009). Legitimation and coercion in political discourse: A case study of Olusegun Obasanjo address to the PDP Elders and Stakeholders Forum. *Journal of Political Discourse Analysis*, 2(2), 191-205.
- Tortola, P. D., & Pansardi, P. (2019). The charismatic leadership of the ECB presidency: A language-based analysis. *European Journal of Political Research*, 58(1), 96-116. <https://doi.org/10.1111/1475-6765.12272>
- van Dijk, T. A. (1997). *Discourse as social interaction*. Sage Publications.
- van Dijk, T. A. (1998). *Ideology*. Sage.
- van Dijk, T. A. (2015). Critical discourse analysis. In D. Tannen, H. E. Hamilton & D. Schiffrin (Eds.), *The handbook of discourse analysis* (pp. 466-485). John Wiley & Sons.
- van Leeuwen, T. (2008). *Discourse and practice: New tools for critical discourse analysis*. Oxford University Press.
- Wonnah, S. (2018). Myths, risks, and ignorance: Western media and health experts' representations of cultures in Ebola-affected West African communities. [Master dissertation, East Tennessee State University]. Digital Commons @ East Tennessee State University. <https://dc.etsu.edu/etd/3389>
- Zahra, T., & Abbas, A. (2022). Corpus-driven analysis of Pakistani newspaper editorials on COVID-19 discourse. *GEMA Online Journal of Language Studies*, 22(1). <http://doi.org/10.17576/gema-2022-2201-02>
- Zghayyir, S. K. (2016). *Persuasive discourse in the selected speeches of Al-Qaeda's Osama bin Laden (1998-2004) and Liberation Tiger Tamil Eelam's Velupillai Prabhakaran (1992-2007): A critical discourse analysis* [Doctoral dissertation, Universiti Sains Malaysia]. Repository@USM. http://eprints.usm.my/31661/1/Sawsan_Kareem_Zghayyir.pdf

REFEREES FOR THE PERTANIKA JOURNAL OF SOCIAL SCIENCES & HUMANITIES

Vol. 32 (4) Dec. 2024

The Editorial Board of the Pertanika Social Sciences & Humanities wishes to thank the following:

Abu Bakar Razali
(UPM, Malaysia)

Carmen Benitez
(UTPL, Ecuador)

Hjalmar Punla Hernandez
(UPLB, Philippines)

Afendi Hamat
(UKM, Malaysia)

Carson J. Pakula
(UGA, USA)

Hongchen Xu
(BLCU, China)

Ahmad Abdulateef
(Al-Nisour University College, Iraq)

Cheng Meng Chew
(USM, Malaysia)

Jadeera Cheong Phaik Geok
Abdullah
(UM, Malaysia)

Ahmad Aizuddin Md Rami
(UPM, Malaysia)

Chin Huan
(USM, Malaysia)

James Chin
(UTAS, Australia)

Alison Groppe
(UO, USA)

Chua Bee Seok
(UMS, Malaysia)

Jonathan Culpeper
(Lancaster University, United Kingdom)

Annarita Sorrentino
(Parthenope University of Naples, Italy)

Chuah Kee Man
(Unimas, Malaysia)

Junainah Mohamed
(UiTM, Malaysia)

Anuar Mohd Yusof
(UMK, Malaysia)

Clare Chan Suet Ching
(UPM, Malaysia)

Lee Geok Imm
(UPM, Malaysia)

Arshad Abd. Samad
(Taylors University, Malaysia)

Daron Benjamin Loo
(UMS, Malaysia)

Mark Feng Teng
(MPU, China)

Asmaa AlSaqqaf
(UMS, Malaysia)

Faizah Eliza Abdul Talib
(UiTM, Malaysia)

Masduki
(UII, Indonesia)

Asnarulkhadi Abu Samah
(UPM, Malaysia)

Farhana Sabri
(USIM, Malaysia)

Mbuyiselo Douglas
(WSU, South Africa)

Atefeh Kiadarbandsari
(University of Auckland, Auckland)

Fazilah Razali
(UPM, Malaysia)

Megawati Simanjuntak
(IPB University, Indonesia)

Attapol Khamkhien
(LITU, Thailand)

Goi Chai Lee
(Curtin University, Malaysia)

Mohad Anizu Mohd Nor
(UiTM, Malaysia)

Azlina Mohd Khir
(UPM, Malaysia)

Habibah Ismail
(USIM, Malaysia)

Mohamad Isa Amat
(USIM, Malaysia)

Baharuddin Abdul Rahman
(USM, Malaysia)

Hardev Kaur Jujar Singh
(UPM, Malaysia)

Mohamed Ayyub Hassan
(UTM, Malaysia)

Beáta Ráczová
(UPJS Kosice, Slovakia)

Hemendra Singh Chandalia
(JRN RVU, India)

Mohamed Thariq Hameed
Sultan
(UPM, Malaysia)

Mohammad Zohrabi
(University of Tabriz, Iran)

Mohd Faizal Kasmani
(USIM, Malaysia)

Mohd Firdaus Abdullah
(UKM, Malaysia)

Mohd Hasrul Yushairi Johari
(UiTM, Malaysia)

Mohd Nazir Mohd Zabrit
(UPSI, Malaysia)

Moussa Pourya Asl
(University of Oulu, Finland)

Muhamad Fadzllah Bin Hj Zaini
(UPSI, Malaysia)

Muhamad Nadzri Mohamed
Noor
(UKM, Malaysia)

Naganathan Rajalingam
(SIT, India)

Nasrudin Subhi
(UKM, Malaysia)

Ngo Sheau Shi
(USM, Malaysia)

Noor Lela Ahmad
(UPSI, Malaysia)

Noorlila Ahmad
(IIUM, Malaysia)

Nor Fariza Mohd Nor
(UKM, Malaysia)

Nora Mat Zin
(IIUM, Malaysia)

Norazilawati Abdullah
(UPSI, Malaysia)

Nur Farhana Azmi
(UM, Malaysia)

Nur Sofurah Mohd Faiz
(UTHM, Malaysia)

Nurazidawati Mohd Arsad
(UKM, Malaysia)

Nurfazreen Aina Muhamad
Nasharudin
(UPM, Malaysia)

Nurul Jannah Mohd Juaini
(UniSZA, Malaysia)

Nurwina Akmal Anuar
(UKM, Malaysia)

Ooi Bee Peng
(XMUM, Malaysia)

Pung Wun Chiew
(UNIMAS, Malaysia)

Purnima Bali
(Shoolini University, India)

Reza Kafipour
(SUMS, Iran)

Ricardo Rodrigues
(ULisboa, Portugal)

Roghieh Nooripour
(Alzahra University, Iran)

Rosilawati Sueb
(UiTM, Malaysia)

Rosliza Abdul Manaf
(UPM, Malaysia)

Roswati Abdul Rashid
(UMT, Malaysia)

Roziah Mohd Rasdi
(UPM, Malaysia)

Rumaya Juhari
(UPM, Malaysia)

Sanitah Mohd Yusof
(UTM, Malaysia)

Sanitah Mohd Yusof
(UTM, Malaysia)

Sanmugam Annamalah
(SEGi University, Malaysia)

Seng Tong Chong
(UNITEN, Malaysia)

Serena Leow
(Sunway University, Malaysia)

Shahanum Md Shah
(UiTM, Malaysia)

Shaidatul Akma Adi Kasuma
(USM, Malaysia)

Siaw Yan-Li
(UM, Malaysia)

Siti Aishah Hassan
(UPM, Malaysia)

Siti Aisyah Panatik
(UTM, Malaysia)

Siti Nadhirah Abdul Rahman
(UPM, Malaysia)

Siti Noor Fazelah Mohd Noor
(UTHM, Malaysia)

Siti Zubaidah
(UM, Indonesia)

Suhardi Maulan
(UPM, Malaysia)

Tey Nai Peng
(UM, Malaysia)

Ting Su Hie
(UNIMAS, Malaysia)

Tunku Badariah Tunku Ahmad
(IIUM, Malaysia)

Wan Amizah Wan Mahmud
(UKM, Malaysia)

Yap Foong Ha
(CUHK-Shenzhen, China)

Zainuddin Zakaria
(UiTM, Malaysia)

Wang Xiaomei
(XMUM, Malaysia)

Yap Ngee Thai
(UPM, Malaysia)

Zalina Mohd Kasim
(UPM, Malaysia)

Wilson Rangga Anthony Jiram
(UNIMAS, Malaysia)

Yew Wong Chin
(UKM, Malaysia)

Zalina Shari
(UPM, Malaysia)

BLCU	– Beijing Language and Culture University	UMS	– Universiti Malaysia Sabah
CUHK-Shenzhen	– The Chinese University of Hong Kong, Shenzhen	UMT	– Universiti Malaysia Terengganu
IIUM	– International Islamic University Malaysia	UNIMAS	– Universiti Malaysia Sarawak
IPB University	– Bogor Agricultural University	UnISZA	– Universiti Sultan Zainal Abidin
JRNRVU	– Janardan Rai Nagar Rajasthan Vidyapeeth	UNITEN	– Universiti Tenaga Nasional
LITU	– Language Institute Thammasat University	UO	– University of Oregon
MPU	– Macao Polytechnic University	UPJS Kosice	– Univerzita Pavla Jozefa Safarika v Kosiciach
SIT	– Sethu Institute of Technology	UPLB	– University of the Philippines Los Baños
SUMS	– Shiraz University of Medical Sciences	UPM	– Universiti Putra Malaysia
UGA	– University of Georgia	UPSI	– Universiti Pendidikan Sultan Idris
UII	– Universitas Islam Indonesia	USIM	– Universiti Sains Islam Malaysia
IIUM	– International Islamic University Malaysia	USM	– Universiti Sains Malaysia
UiTM	– Universiti Teknologi MARA	UTAS	– Universiti of Tasmania
UKM	– Universiti Kebangsaan Malaysia	UTHM	– Universiti Tun Hussein Onn Malaysia
ULisboa	– Universidade de Lisboa	UTM	– Universiti Teknologi Malaysia
UM, Malaysia	– Universiti Malaya	UTPL	– Universidad Tecnica Particular de Loja
UM, Indonesia	– Universitas Negeri Malang	WSU	– Walter Sisulu University
UMK	– Universiti Malaysia Kelantan	XMUM	– Xiamen University Malaysia

While every effort has been made to include a complete list of referees for the period stated above, however if any name(s) have been omitted unintentionally or spelt incorrectly, please notify the Chief Executive Editor, *Pertanika* Journals at executive_editor.pertanika@upm.edu.my

Any inclusion or exclusion of name(s) on this page does not commit the *Pertanika* Editorial Office, nor the UPM Press or the university to provide any liability for whatsoever reason.

**Selected papers from the 12th Malaysia International Conference on Languages,
Literatures and Cultures (MICOLLAC 2023)**

Guest Editors: Vahid Nimehchisalem and Chan Mei Yui

- | | |
|---|------|
| Metacognitive Strategies and Writing Proficiency: Mediating Role of
Critical Thinking Skills in Online Learning Mode During COVID-19
<i>Xiaolei Shen, Lilliati Ismail and Joanna Joseph Jeyaraj</i> | 1619 |
| Students' Perceptions of Evaluative Judgement in Technology-mediated
Dialogic Peer Feedback
<i>Xiao Xie, Mei Fung Yong, Ngee Thai Yap and Vahid Nimehchisalem</i> | 1643 |
| Representation of Social Actors in COVID-19 Speeches by Southeast
Asian Political Leaders
<i>Anis Shahira Bazlan and Amirah Athirah Amir Yazid</i> | 1661 |

Science Teachers' Pedagogical Orientations Versus Students' Preferred Orientations in Pakistan <i>Fayyaz Ahmad Faize and Nada Ibrahim Alribdi</i>	1415
Measuring Spatial Ability: Analysis of Spatial Ability Test for Gulf State Students Using Item Response Theory <i>Mohammed Al Ajmi, Siti Salina Mustakim, Samsilah Roslan and Rashid Almehrzi</i>	1433
Humanistic Learning and Technological Approaches in Indonesian Tourism Vocational High Schools <i>Akhyar Rido, Bagus Hary Prakoso, Analiza Liezl Perez-Amurao, Mariati Purba and Heni Waluyo Siswanto</i>	1451
Fostering Edupreneurship Among Students as a Social and Cultural Practice: A Case Study in the German Department at Universitas Negeri Malang <i>Desti Nur Aini, Muhammad Iqbal Ikhsani, Erin Alida Damayanti and Iwa Sobara</i>	1477
Swiftlet Farming Industry—A White Gold in the Malaysian Housing Market? <i>Nurul Hana Adi Maimun and Yeong Ka Choon</i>	1507
Determinants of Instructors' Intention to Stay in First Generation Public Universities in Ethiopia: Management and PRs Perspective <i>Tesfaye Gebeyehu Tessema and Salilew Abebe Yadeta</i>	1523
The Effects of SMIs' Source Credibility on Consumers' Intention to Purchase Local Cosmetic Products Through Attitude Towards Advertisements <i>Bernadine Adel Sitorus, Sylvia Nabila Azwa Ambad and Cynthia Robert Dawayan</i>	1547
<i>Review Article</i>	
The Effectiveness of Blended Learning in the UAE Secondary Schools—Literature Review <i>Haifaa Yousef Abuhassira, Ahmad Zabidi Abdul Razak and Kazi Enamul Hoque</i>	1579
Improving English Speaking Proficiency Among Non-English Major Learners in Malaysia Through Mobile Language Learning Applications <i>Jonaline John and Yueh Yea Lo</i>	1599

Content

Foreword <i>Chief Executive Editor</i>	i
The Break-up Experience of Romantic Relationship and Post-traumatic Growth Among Vicenarian Adults <i>S Subatraa Subramaniam, Asong Joseph, Mimi Fitirana, Walton Wider and Surianti Lajuma</i>	1247
Psychosocial Experience of Patients with Diabetes Mellitus: An Interpretative Phenomenological Analysis <i>Zaqqi Ubaidillah, Ratna Wulandari and Faqih Ruhyanudin</i>	1267
Validation and Reliability of the Revised Manipal Inventory of Academic Stress (MIAS) Among Higher Secondary Students in Karnataka, India <i>Anirudh Ramesh, Shreemathi Sureshramana Mayya, Maxie Martis and Arun Mayya</i>	1281
Sexual Identity Development of Sexual-and-Gender Minority Among Malay Women in Malaysia <i>Sharifah Zubaidiah Syed Jaapar, Rosediani Muhamad, Asrenee Ab Razak, Mujahid Bakar, Rafidah Hanim Mokhtar and Azlina Ishak</i>	1301
The Cohort Effect on Collective Memory of COVID-19 Among Malaysians: A Repeated Cross-sectional Study <i>Hasrina Mustafa, Izzal Asnira Zolkepli, Azizul Halim Yahya and Athera Abdul Ghauth</i>	1325
Psychometric Properties of the Strength-based Parenting Questionnaire Parent-version in Malaysia <i>Clarisse Roswini Kalaman, Norhayati Ibrahim, Choy Qing Cham, Meng Chuan Ho, Yan-Li Siaw, Amira Najiha Yahya and Ching Sin Siau</i>	1345
An Acoustic Study on the Citation Tones in Malaysian Mandarin <i>Xin Ren and Poh Shin Chiew</i>	1367
The Storytellers: In-depth Interviews with Malaysian Documentary Filmmakers <i>Raja Rodziah Raja Zainal Hassan, Huey Pyng Tan and Eu Choong Chong</i>	1391



Pertanika Editorial Office, Journal Division
Putra Science Park
1st Floor, IDEA Tower II
UPM-MTDC Technology Centre
Universiti Putra Malaysia
43400 UPM Serdang
Selangor Darul Ehsan
Malaysia

<http://www.pertanika.upm.edu.my/>
E-mail: executive_editor.pertanika@upm.edu.my
Tel: +603 9769 1622

PENERBIT
UPM
UNIVERSITI PUTRA MALAYSIA
PRESS

<http://penerbit.upm.edu.my>
E-mail: penerbit@upm.edu.my
Tel: +603 9769 8851

