



Pertanika Journal of
**SOCIAL SCIENCES
& HUMANITIES**

JSSSH

VOL. 29 (S1) 2021

*A special issue devoted to
Education, Training and Counseling:
Implication on the Post-COVID-19 World Pandemic*

Guest Editors

Nor Wahiza Abdul Wahat and Ahmad Aizuddin Md Rami



A scientific journal published by Universiti Putra Malaysia Press

PERTANIKA JOURNAL OF SOCIAL SCIENCES & HUMANITIES

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

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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.

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**SOCIAL SCIENCES &
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Education, Training and Counseling:
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VOL. 29 (S1) 2021
(Special Issue)

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executive_editor.pertanika@upm.edu.my

URL: www.journals-ijd.upm.edu.my

PUBLISHER

UPM PRESS

Universiti Putra Malaysia

43400 UPM, Serdang, Selangor, Malaysia.

Tel: +603 9769 8855 | 8854

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Pertanika Journal of Social Sciences & Humanities
Vol. 29 (S1) 2021

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Preface

The COVID-19 Pandemic has generated challenges and vulnerability in many aspects of our lives. Nevertheless, the phenomenon has opened the door to extraordinary innovations in education and training, as well as uplifted human resourcefulness.

Through this special issue on “Education, Training and Counseling: Implication on the Post-COVID-19 World Pandemic”, scholars have been able to contribute their perspectives and recent research findings on how the pandemic has impacted education, counseling, and training. Implications of the COVID-19 pandemic on these areas are highlighted in this special issue.

We are very glad to present this special edition of the *Pertanika Journal of Social Sciences and Humanities (PJSSH)*. The twenty-one papers selected for this special issue were from the 5th International Conference on Educational Research and Practice (ICERP).

We believe that all the papers published in this special issue will have great impact on important stakeholders in counseling and training fields within the educational sector such as governmental agencies and non-governmental agencies, educational professionals, and learners.

We would like to convey our gratitude to the previous Chief Executive Editor, UPM Journals, Dato’ Dr. Abu Bakar Salleh; Editor-in-Chief, Prof. Dr. Wong Su Luan, *Pertanika* administrative staff, Prof. Dr. Samsilah Roslan, Dean, Faculty of Educational Studies and the Publication and Citation Unit of the faculty for their support and guidance in making this publication possible.

Last but not the least, we thank all the authors who contributed to this special issue.

Guest Editors

Nor Wahiza Abdul Wahat (*Assoc. Prof. Dr.*)

Ahmad Aizuddin Md Rami (*Dr.*)



Assessing the Challenges of Local Leaders in Rural Community Development: A Qualitative Study in Malaysia

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ABSTRACT

In Malaysia, the ongoing reform at the local government level continues to shape the role of local leaders in rural development. This study aims to identify several challenges faced by rural community leaders and to suggest some ways in which rural leaders can weather and benefit from them. This qualitative study, which used content analysis, employed purposive sampling to firstly select the interviewee, and then was sustained throughout until data saturation. The respondents were from a 60-member cohort from Malaysia's Villages Development and Safety Committee who held the positions of chairpersons and ordinary members. For data collection and analysis, this study used semi-structured interviews and an inductive approach respectively. The data analysis led to the development of eight main themes of "difficulty in decision making", "strengthening external network", "disseminating the precise information", "Comprehensive participation of the community members", "preparing an efficient work plan", "overlapping functions of government agencies", "political control", and "the lack of facilities and infrastructure". Identifying these challenges for rural community leaders will help the local government take proactive

action on community leadership in terms of social capital, networking, communication, trust creation, and leadership qualities. Going forward, the government should place serious attention to developing the potential and skills of local leaders as a reward for their profound commitment to developing their community.

ARTICLE INFO

Article history:

Received: 13 November 2020

Accepted: 11 March 2021

Published: 14 April 2021

DOI: <https://doi.org/10.47836/pjssh.29.S1.01>

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Keywords: Community leadership, challenges, local leader, rural development, Malaysia

INTRODUCTION

Community is defined through the dimensions of reinforcement, influence, shared emotional connection, and membership (Garrett et al., 2017). A community may not only share a physical connection, but its members also need to have common interests, such as politics or culture (Walker, 2008). The idea of community is also a fundamental concept of community leadership in the way that by the participation of community leaders in rural community development is subjected to the development of various interests to the society itself and involves the community actively (Geoff Wilson, 2012). In other words, the participation of community leaders is a crucial solution to current problems towards a successful community by being the gateway to opportunities (Seltzer & Mahmoudi, 2012). Rural leaders are the vital force of communities straddling in the outskirts. Consequently, it is these leaders' willingness, commitment, and degree of leadership that determine the success or failure of community development initiatives (Onitsuka & Hoshino, 2018). Previous studies have been highlighting the need to seek, attract, and develop potential, younger or emerging leaders to spearhead community development (e.g., Wituk et al., 2003). Hence, the necessary ingredient for the advancement of community-building is effective leadership.

Rural communities are an essential aspect of society as a whole because they are hubs of authentic ideas, values,

cultures, and lifestyles (Tantoh & McKay, 2020). Unfortunately, rural areas today face major, sweeping changes across these regions, thus causing a sense of uncertainty, especially within the last decades. Among the notable changes is an increase in labor specialization occurring within and between communities (Beaulieu, 2019). Other issues range from declining to rapid growth. Thus, effective leadership at the community level is a prerequisite in organizing community action, nurturing social well-being, and improve community viability. In fact, according to Lamm et al. (2017), the mutual dynamics of community leadership and community action must be at the forefront to effectively roll-out initiatives that address issues specific to rural communities and regions. Undoubtedly, local leaders directly impact the life and well-being of their members.

As part of a larger society and population, the economic and social contributions of communities in the outskirts are significant such as natural resources and a unique value system (Flora et al., 2004). Within contemporary communities and challenges, the roles of local leaders and associations must be acknowledged as the impetus for community development (Horlings et al., 2018). Thus, on-the-ground leadership is needed to tackle complex problems, mobilize community action, enhance social well-being, and improve community efficacy. This study aims to describe several and immediate challenges faced by the rural community leaders.

LITERATURE REVIEW

Community Leadership

Community is not only considered as the dynamics of a shared geographical identity among individuals but a place where the social interaction process among members is at its core (Worthy et al., 2016). Fundamentally, the community is defined by social interaction. It must be noted that leadership across domains display shared similarities; leadership in communities is distinct because the leaders operate under a different structure with a different purpose as compared to those in organizations or specific individuals (Ricketts & Ladewig, 2008). The underpinned distinctive features of community leaders are the non-reliance on sole power and formal authority. Instead, as conveyed by Pigg (1999), they rely on influence, networking, and extensive interactions with members to develop deep relationships within the community.

For communities to thrive, researchers consider leadership, as a critical resource towards developing, healthy communities and as such the quality and quantity of this resource is indispensable (Hazy et al., 2007; Raelin, 2011). It is also known as a key agent in strengthened communities (Davenport & Mattson, 2018). Within the context of community, as is this study, there are several sociological definitions on leadership. Tinker-Walker and Walker (2020) posited that reputation commensurate with leadership and defined leaders in terms of the power and influence they had over their members. One recent definition

of community leadership is Goeppinger (2002), who equated it as an interactive process between the members within a shared geographical identity.

Community leadership can only be effective when both local leaders and followers consider their roles as allies and collaborators with a shared purpose (Aziz, et al., 2020; Mamat, et al., 2019; Rami, et al., 2019; Rami, et al., 2020a; Rami, et al., 2020b). Equally important are the social behaviors that establish credibility and trust in communal relationships (Pigg, 1999). Redmond (2013) used the tricomponent of interaction - actors, associations, and actions – to assess the performance of community leadership roles within a locale and the possible relationships resulting from the actions. Redmond (2013) also found that local leaders tended to focus on the general needs and concerns of the community rather than pursuing self- and individual interests. Therefore, the role assessment of local leadership requires observations on leaders' contribution towards community-building. Redmond (2013) further identified three components of leadership behaviors among community actors. These are the leaders':

1. degree of involvement in various phases of community action,
2. the span of participation in community actions that address distinct areas of interest, and
3. the extent of involvement in actions that include a standard set of actors possessing a broad perspective on community concerns.

Local Leaders and Rural Community Development

Leadership roles are played in almost every social domain and are significantly fundamental in rural communities. As an essential component, community leadership that authentically develops relationships within a community is a given (Rodela & Bertrand, 2018; Sabouripour & Roslan, 2015). By ignoring leaders and actors on the ground, we disregard strong decision-makers and social change agents who provide leadership towards community action, thereby discounting the very meaning of community development itself. In contrast, by acknowledging the presence and associations of rural leadership, we underscore their substantial impacts on the planned change towards a community development that serves the greater good of the community (Hou & Wu, 2020). Nonetheless, rural communities face problems and challenges that are particularistic to their size and structure. What is widely accepted is that rural community development must emphasize self-sustenance, thus aligning with national economic and social progress of developing countries, such as Malaysia.

Government-run community development programs will not succeed without the help of rural community leaders. In this light, rural community leaders play an essential role as the supervisors and facilitators of government policies (Rami et al., 2020a). Community development is a social process to empower individuals to have a sense of some control over local

conditions and respond to the changing world accordingly (Ajayi & Otuya, 2006). Yet, force and order have no place in sustainable community development; in its place is equal participatory efforts from all actors to share their ideas, visions, and responsibilities and to democratically steer and implement their community or village development projects (Ajayi & Otuya, 2006). According to Nuttavuthisit et al. (2015), one approach in ensuring sustainable rural development is through an equal-opportunity platform to support participatory brainstorming and planning for their shared future. Essentially, this calls for effective leadership (Ngcobo & Tikly, 2010) at the local levels to harness the wealth of knowledge, inputs, and efforts of the rural people towards their development.

Among the diversity of community development programs, several awareness programs are considered mainstream: providing information on resources, inputs, and infrastructure; deploying technical assistance; acquiring skills for self-development; increasing literacy proficiency; improving productivity and productive systems; adapting appropriate technology in agriculture; and sensitizing potential volunteers and donors (Madsen et al., 2014). In developing countries, other quintessential development programs focus on peoples' rightful needs and basic amenities for a decent life, such as the provision of and access to road infrastructure, utilities, healthcare, food security, education, and farm settlements among others (Ajala & Rauf, 2019). Achieving these goals is

possible with the combined, collective efforts of all actors with a shared conviction to prioritize rural community development to alleviate poverty there in achieving national self-sufficiency. To help bring about rural community actions, individuals and groups must step up and step into good leadership roles. The success of rural community development rests on the involvement of influential local leaders lest the progress of such programs being undermined (Kumpulainen & Soini, 2019). Therefore, any agency or organization that is given the mandate to design community development programs must seek initial clearance from the said influential local leaders, a legitimation process. Regretfully, successive governments have been neglecting rural community development since the colonial rule in Malaysia.

Rural Community Leadership Challenges

Rural community leadership essentially spearheads and manages rural community development. The role of a significant rural leader determines the success or failure of rural projects. As the key agent of change at the local level, local leaders should possess specific competencies for a meaningful change (Maharjan, 2017). However, a leader's effectiveness is dependent on several factors, such as the organizational structure, leader's competency, and the conduciveness of the working environment.

Today's community leaders are plagued with complex challenges that are unlike those faced by previous generations. The

complexities that befall rural communities thus call for the response of community leaders in overcoming these challenges (Rami et al., 2020). The overarching challenge is for the government to align and ensure rural community development grows in parallel to national development. Therefore, credible, effective community leaders are needed to achieve the country's development aspiration. This study focuses on the role of community leadership in the development of grassroots innovations. It seeks to answer: When community leaders initiate energy projects, what skill set and knowledge practices do they utilize to nurture grassroots innovations? This section describes the kinds of challenges a leader's faces and suggests some ways in which leaders can weather through them and turn it to an advantage. According to Oruonye (2013), some common but major challenges faced by rural leaders are:

1. The lack of the rule of law and non-adherence to constitutionality;
2. The absence of development-oriented leadership;
3. The absence of accountability and transparency;
4. The entrenchment of corruption;
5. Electoral malpractices; and
6. Tendencies for materialistic gain, power, and self-interest.

Study Context

In Malaysia, the government has established the Village Development and Security Committee (MPKK) at the grassroots district and village level to act as an agent for public

administration and development, especially in a rural area (Rami et al., 2020b). As a community leader, the MPKK plays an integral role as the official community leaders in a community. Therefore, the effectiveness of MPKK leadership plays a crucial role in the local communities in terms of socio-economic development (Rami et al., 2016). In line with its objective, MPKK has become the driving force in various activities and programs directly related to the socio-economic development of the villagers, including carrying out the function of an agency mandated in solving developmental problems. In this regard, they hold power to execute the task given by government agencies including planning community development programs, planning local development, supervising government projects, as well as supporting government agencies in aid distribution to needy households. Moreover, many members of rural communities believe that MPKK's local leaders can bring meaningful changes to their communities. Besides, they believe that MPKK can influence the decisions made by the district office and by the government agencies (Rami et al., 2020a). Thus, community leaders who can support the community are facing challenges head-on by providing better socio-economic and education facilities to the rural communities (Kirk & Shutte, 2004). Notably, MPKK members serve as a driving force in accelerating the process of rural development (Rami et al., 2020a). Consequently, the lack of community leaders like those from MPKK

will see government-planned programs as a challenge to implement (Rami et al., 2016). Nevertheless, the appointed local leaders had reported poor performance of duties due to the unavoidable challenges and obstacles that hindered them from carrying out their responsibilities (Crosby & Bryson, 2005). These challenges have led some leaders to run programs without proper or to its full purpose as envisaged by the government.

This study focuses on the challenges faced by Malaysia's local leaders to fulfil the government's aspiration on rural development. To overcome these challenges, there is a need for awareness about the state of the country's community leaders so that the government can align and ensure rural community development grows in parallel to national development. Therefore, the goal is to develop credible and effective community leaders to achieve Malaysia's national development aspiration.

MATERIALS AND METHODS

Many of the past researches on leadership challenges of rural communities have used quantitative methods (Liu & Hallinger, 2018; Musitha, 2020; Onitsuka & Hoshino, 2018). In response, this study moved away from proving or refuting predetermined hypotheses by attempting to understand leadership challenges through a detailed inquiry into the lived experience of local leaders. Correspondingly, a qualitative approach was deemed more appropriate for this study (Taylor et al., 2015) as it offered raw inputs to reveal the subjective experiences of local leaders. Thus, this study

employed a qualitative phenomenological research approach to discussing the problems raised in this study. As a research method, phenomenology can qualitatively map the different ways that people are immersed in their experiences, conceptualization, perception, and understanding of a phenomenon (Cibangu & Hepworth, 2016). The objective of this method is to frame and describe these qualitative differences in conceptual categories. The phenomenological approach has been used in various educational research contexts and with various populations (e.g., Samuelsson & Pramling, 2016). This method can be exploited to provide.

Data Collection

The study was conducted in Terengganu, Malaysia, which has the highest number of rural areas in Peninsular Malaysia. This study employed semi-structured interviews for data collection and used an inductive approach to conduct the analysis. Ethical approval was not considered necessary according to Green and Thorogood (2018), as this study is not stressful for participants

and no interventions are performed and interviewees voluntarily attended in interview sessions. Purposeful and snowball sampling methods were used for sampling. To establish the study area, four communities in the state were chosen where interviews and observations were conducted for research data. Consequently, the study involved a total of 60 respondents, including community leaders (MPKK), members of local communities, officials in the relevant government agencies, and residents (See in Table 1).

The interview questions probed on subjects related to their daily activities, a leader's role in managing community affairs, including gatherings and meetings, as well as the relationship between local communities and government and non-government agencies. The focus on the challenges faced by community leaders was the central idea of this research. The principal investigator and a research assistant conducted all the interviews which allowed the respondents to converse and express their opinions with ease.

Table 1

Research participants from 4 selected communities in state of Terengganu

Community	Chairman	Head Task Force	Committee Members
Kampung Kayu Kelat, Besut Terengganu	1	4	10
Kampung Guntung Luar, Setiu Terengganu	1	4	10
Kampung Rawai, Marang, Terengganu	1	4	10
Kampung Banggol Katong, Kuala Terengganu	1	4	10

Data Analysis

The researchers compiled, integrated, and synthesized field notes, debriefing notes, as well as the verbatim transcriptions of the 60 interviews, including those from the focus groups. The method of data collection in this study was through in-depth one-to-one interview and focus group discussion. Indeed, two focus group discussions and twelve in-depth sessions of one-to-one interviews were conducted in four selected communities in Terengganu. Moreover, to verify the challenges of community leadership, respondents from various fields of expertise and backgrounds were interviewed. A total of 60 respondents were selected which comprised community leaders, locals residence and officials in the relevant government agencies. Each interview lasted at least 30 and up to 45 minutes. Using Atlas.ti 8.1's open coding method, the researchers analyzed the qualitative questions first without prior defined categories. Next, they also benefited from the use of this software when compiling, analyzing, and making the connection between the themes.

The combination of interviews increases the trustworthiness of the information, making the findings more robust. The interviews provided a wide variety of views on integrated care, providing a realistic impression of views across the sector (Green & Thorogood, 2018). To develop the coding scheme, two research assistants were sought to extract words and phrases as units of meaning. The scheme developed two types of codes: descriptive codes that

described response content observations, and pattern codes that provided meta-level and conceptual understanding of responses. This was followed by the refinement of themes where the representative quotes were chosen. A group of three research assistants, only one of which was part of the initial group independently coded the interview records. In the final step, relevant themes and sub-themes were assigned and representative quotes were selected and repeated during each interview to capture the full experiences of the respondents (Gratton & Jones, 2014). Additionally, the interviews presented a summary of themes to the respondents to document their feedback and reactions.

As mentioned above, Atlas.ti software (version 8.1) was employed in this study to facilitate the process of data analysis. The accuracy of various data sources from within the same method was tested by the triangulation of sources. The data was gathered from rural leaders from four different communities. Besides, the study followed four steps of trustworthiness mentioned by Lincoln and Guba (1985) by checking credibility, Transferability, Dependability, and Confirmability of Atlas.ti output by three researchers. To locate major and minor themes, Atlas.ti was utilized to obtain reliable sources gathered through interviews and records. As the researcher went through this process and focused on various sources of evidence rather than a single event or data point in the study, the narrative account was considered accurate. Moreover, to verify the challenges of

community leadership, respondents from various fields of expertise and backgrounds were interviewed.

RESULTS

The data analysis led to the development of seven major themes. This study found that most leaders were willing to contribute to the government and the local community actively. However, they faced challenges in carrying out their

duties effectively (see Figure 1). The eight (8) themes included “*difficulty in decision-making*”, “*strengthening external network*”, “*disseminating the precise information*”, “*comprehensive participation of the community members*”, “*preparing an efficient work plan*”, “*overlapping functions of government agencies*”, “*political control*”, and “*the lack of facilities and infrastructure*”.

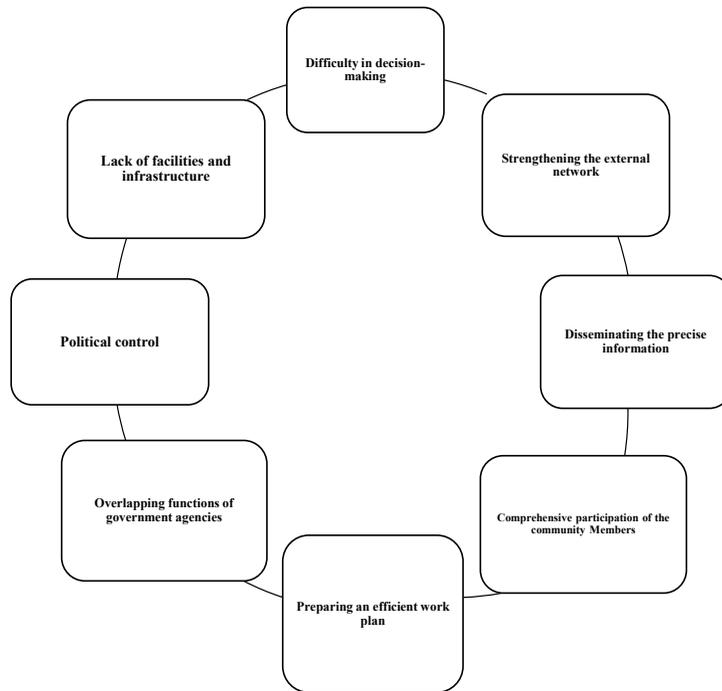


Figure 1. Emerged themes of the present study

Difficulty in Decision-making

As many rural communities consist of people from diverse backgrounds, different community leaders have given a variety of responses. Each community has different

aspirations; at times, it is difficult to execute programs with a common goal as a different result might be obtained from different communities. Furthermore, various parties, whether from within or outside the

community, may intervene in the execution of these programs as they have different interests. This leads to the inability of MPKK leaders to make decisions, as they act based on the best interest of all parties. According to MPKK leaders interviewed, some projects have received intervention from various parties such as government agencies, and their involvement influences the decisions made at the grassroots level. This could harm the area as the decision was not based on the real, local needs.

“... Yes ... we admit, we are having difficulty in making decisions, especially involving development projects in the villages.”(R1A)

The local community members interviewed also questioned the decisions made by their leader's views and claimed that the decisions did not reflect the needs of the local population. A local youth leader interviewed explained;

“MPKK (community leader) rarely involve the youth in any project or plan village, a part of this is because we do not want to participate in programs organized by them” (R2A)

Strengthening the External Network

The community leaders are aware that strengthening the link with external parties is one of the biggest challenges they face. In this light, they are aware that networking with external parties, such as government agencies, local political parties, the private sector, and the industry can help improve the socio-economic well-being of the

local community. However, they found it difficult to establish a positive connection with outsiders, especially with the industry. According to interviewees, they have no idea how to start communicating with outsiders. They also admitted that as most of the community leaders were farmers and small-scale entrepreneurs, they had limited educational background and professional experience in managing a community. Moreover, even though some of these leaders do have an excellent educational background and professional experiences, they still have little networking experience with external parties. Consequently, they face challenges in getting help and to cooperate with external parties in executing development programs. Some of the leaders interviewed claimed that they received assistance only from government agencies and political parties, and there was a limited collaboration with the private sectors.

Disseminating the Precise Information

Information is key to making the right decisions, and to resolve any problems. It is also crucial to ensure more active involvement from the local community. When members of the community receive adequate information, they will be able to contribute to the decision-making process. Moreover, they will be more motivated and eager to contribute to the betterment of their community. One of the interviewees responded;

“Yes, we understand that effective communication is essential, but at times, uncertainty is caused by several

factors such as public acceptance, understanding and limited time to convey information quickly” (R3A)

However, the advent of the latest communication technologies has made information travel faster, and the community members are more likely to get information from the Internet. The spread of unverified news has increased the communication gap between community leaders and community members. There is also an apparent generation gap, as many community leaders are from the older generation who are reluctant to embrace ICT as a medium for communication, such as the use of instant messaging to deliver information faster. One of the MPKK chairmen interviewed admitted that he faced difficulties in delivering timely and accurate information because they did not have access to the right information from the government.

Comprehensive Participation of the Community Members

Andrew (2014) stated that community participation was essential to ensure that rural development can be implemented quickly and thoroughly. The support of each member of the community in any organized program or activity could make an impact on each individual. However, most rural communities comprise members with diverse socio-economic and educational backgrounds. Some of the community members come from the bottom rung of the socio-economic ladder, and they need to work most of the time to make ends meet. This makes it difficult for them to be engaged

in communities’ activities and connect with the leader and other community members. A local community member explained;

“We do not have much time to participate in our community activity and also help our leaders and their members. We are busy looking for extra income . . . until the night we work” (R3C)

In this light, the chairman and committee members of MPKK sometimes had to sacrifice their free time to organize programs on the weekend or in the evening to ensure full participation from the community members.

Preparing an Efficient Work Plan

The community leaders had expressed the need to provide a more effective work plan to overcome the challenges in developing rural areas. The respondents also admitted such a work plan provided practical help in running programs or community development activities. They also expressed their concerns about their lack of experience and knowledge in providing an effective work plan and claimed that these shortcomings might fail specific programs. In this regard, the lack of adequate planning has caused some poverty eradication programs to have little or no impact on the community. This is also evident with youth development programs that showed lackluster success due to budget constraints and lack of external funding.

“... we realize that we lack experience in managing programs, particularly large-scaled programs.”(R4C)

“... there are some programs that have been successful. However, there are still few weaknesses that we need to overcome.” (R4D)

To overcome this problem, MPKK leadership should hold a forum where community members meet and discuss available opportunities and efforts that can be done to achieve them. This indirectly helps to build understanding with the help community members to cope with issues plaguing the area, build understanding, as well as help community members and officers to connect with the relevant organizations and agencies appointed to manage the community.

Overlapping Functions of Government Agencies

The overlapping functions of different government agencies were also listed as one of the challenges in the development of rural areas. The overlapping roles and the lack of coordination among government ministries and agencies involved in rural development have led to redundant programs and projects and the lack of focus on their real-life implementation. This issue creates a challenge for MPKK to cooperate with these agencies to ensure optimal use of resources and effective project implementation. Coordination between government agencies with MPKK leaders is essential, particularly in assisting the community as MPKK has a clearer outlook on specific assistance needed by their communities.

One of the MPKK chairmen posited that if there are government agencies that want to

implement any programs or projects in the rural areas, the agency should consult and discuss with the MPKK committee of the village in advance to avoid redundancies, for example, in the distribution of flood aids. These aides will come from various sources, including the Regional Office, the Social Welfare Department, the private sector, and non-governmental organizations (NGOs). These parties should go through MPKK so that the assistance can be distributed optimally. However, some officials of government agencies, in particular, the managers do not understand the situation and take an easy way out in implementing such programs. As a result, the programs have little benefit to the community and do not fulfill the government's aspiration.

Political Control

According to an MPKK chairman interviewed, one of the major problems faced by local leaders is the influence of politicians. Although the respondents believe that political involvement in rural development is essential, from their perspective, such involvement must be confined to policy matters and should not be an imposition on the implementation process on the ground. Subsequently, they see the selection of MPKK leaders and committee being gradually based on political preferences, there in transforming the committee into a political entity how it is used as a political tool. William Wilson's (2012) study supported this evidence-based experience that is typical in developing countries. He described how governments

had notoriously used NGOs as convenient vehicles to establish political footing with rural grassroots. As a result, the committees have slowly become intermediaries for a top-down consolidated political control, rather than being earnest programs implemented programs aimed at poverty eradication.

Correspondingly, it was observed that community leaders (MPKK) who were selected based on their political alignment were said to perform with less accountability towards their community members. Instead, they feel more obligated to the politicians who secured positions for them and who are seemingly immune from criticisms by the committee members. Therefore, it is suggested that the state authorities should ensure that there is no political intervention in appointing village leaders for this committee.

The Lack of Facilities and Infrastructure

Several rural areas are still lacking in comprehensive coverage and connectivity, as well as clean water supply and electricity. This situation has affected the development process and hindered the expansion of economic activities in rural areas. Public facilities, such as community halls, futsal court, and children's playground have been provided as a place for the community members to interact. However, this objective is yet to be fully achieved due to the wrong location and low maintenance of the facility. These drawbacks have restricted the community's ability to generate rental income to cover the cost of maintenance.

In this regard, the community leaders have tried to seek assistance from both government and non-governmental agencies in an attempt to upgrade the existing facilities. However, often, their call for assistance was not being answered due to financial constraints plaguing both the government and non-governmental agencies. Even when some of the funding requests were granted, the budget given was insufficient, and this had caused many projects to be abandoned before completion. As a result, the community leaders were forced to generate their funding to ensure that their locality was equipped with necessary facilities for better livelihood.

Finally, out of 60 respondents who were interviewed, many had explained that one of the biggest challenges they faced was developing an efficient framework to strengthen their network connectivity with external parties. Based on the matrix analysis given to the respondents, 76% believed that both challenges were hard to overcome. They also agreed that the involvement of external parties could help empower the aspects above.

DISCUSSIONS AND CONCLUSIONS

The findings presented in this study have revealed that rural community leaders face various and specific obstacles and challenges for community development of their hometown. This study found that these challenges were caused by the lack of experience in organizational management, lack of higher education, and lack of

professional working experience. This study suggests that the government should focus on rural community leaders as social capitals, and provide assistance in terms of networking, communication, value creation, and leadership norms. In this regard, the government should place serious attention to developing the potential and skills of local leaders as a reward for their profound commitment to developing their community.

While the rural communities in the state of Terengganu have undergone numerous changes, the success of these rural development projects and programs have benefitted from the local leaders, which comprise MPKK leaders. So far, they have been exemplary in their leadership role in realizing the government's development endeavor while aligning with the national agenda. It can be concluded that the local leaders' response towards challenges and the issues that follow have shown positive outcomes due to their planned developmental efforts. This ripple effect is seen as successful in closing the socio-economic gap between the rural and the urban areas.

Overall, the MPKK leaders have been responding well to every issue, and they have become an excellent communications intermediary to channel the government's message to the rural grassroots. Undeniably, their role in spearheading the waves of development is impactful and meaningful. Unsurprisingly, this study found that the MPKK leaders in Terengganu have excellently and effectively helped eradicate poverty in their communities. In this light,

these leaders are deemed as useful due to their ability to lead their community in different development programs. These leaders can successfully influence the local community to have a positive involvement in the programs held for them.

Furthermore, they have successfully executed their role as the agent for rural transformation and development. The development programs are successful due to the unity and tolerance demonstrated by the community members, community leaders, and government agencies. This is not an easy feat, and this further illustrates that the influence of the community leader is integral in ensuring the success of the execution of the government's development agenda.

IMPLICATIONS

The efficacy of rural development programs is dependent on the tripartite cooperation of the rural leaders, government agencies, and organizations, where all are considered as key stakeholders in the policy-making process. The insights of the interdependent relationships among rural community, leadership, and community action can help researchers link theory to policy, thus grounding the fundamentals of rural development policy. It must be noted that the findings of the present study showed that these complex issues cannot be addressed with past strategies. Instead, they require leaders to relook and rethink fresh perspectives and aspects of their community. Therefore, it is commendable for community leaders to be willing to take action and create

broad social networks to successfully tackle the complex, contemporary issues. Besides, local leaders need to raise their game by recognizing the unique needs particularistic to rural growth when developing well-adapted local public policy.

LIMITATIONS AND DIRECTIONS FOR FUTURE STUDIES

The limitations of this study should also be noted. The present study is qualitative research in nature, and the findings cannot be generalized for a more significant population. Besides, the challenges found by this study are related to rural Malaysia with specific cultural and social characteristics. Thus, the findings only can be used as a basis for future empirical studies in developing countries to unearth rural leadership challenges. Furthermore, due to the Covid-19 pandemic, rural leaders are now faced with new challenges that hinder community development. Future researches need to study how local leaders are responding, managing, and coping with the current situation in rural areas.

ACKNOWLEDGEMENT

Thanks to Universiti Putra Malaysia (Geran Inisiatif Putra Muda GP-IPM2020/9695000) for funding this research.

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Relationship between Engagement in Learning Entrepreneurship Education and Entrepreneurial Intention among Vocational College Students

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ABSTRACT

This study's principal objective is to investigate the relationship between student engagement in learning entrepreneurship education and entrepreneurial intention among students in a vocational college. The selected vocational colleges are located in Selangor, Negeri Sembilan, and the Federal Territory of Kuala Lumpur. A quantitative approach method was employed where questionnaires were distributed among first-year students enrolled in diploma courses offered by 16 vocational colleges. A sample of 244 students was chosen through stratified random sampling to participate in the study. The descriptive analysis results show that the entrepreneurial intention and student engagement in learning entrepreneurial education among vocational college students were both at a moderate level. The correlational analyses show a moderate-level, positive, and significant relationship between engagement in learning entrepreneurship education and entrepreneurial intention. Among the six variables, only engagement in learning, engagement with academic staff, and engagement in communities predict entrepreneurial intention with an explanation

of 84.7%. This indicates that engaging students in the learning of entrepreneurial subjects and skills are essential in fostering their internal motivation and help to build confidence toward starting a business venture and becoming their boss rather than hunting for jobs after college.

ARTICLE INFO

Article history:

Received: 13 November 2020

Accepted: 11 March 2021

Published: 14 April 2021

DOI: <https://doi.org/10.47836/pjssh.29.S1.02>

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Keywords: Entrepreneurial intention, entrepreneurship education, student engagement, vocational college

INTRODUCTION

The need to strengthen Technical and Vocational Education and Training (TVET) remains a primary focus of many countries to drive human capital development for its productivity and economic growth. It is interesting to note that under the 11th Malaysia Plan 2016-2020, the Malaysian government decided to stream according to disciplines in schools and expand access to vocational education to overcome the public stigma and mindset that vocational courses are a second choice second-class option (Economic Planning Unit, 2017). Further, the government reaffirmed its commitment to strengthening vocational education by announcing that the Vocational Education Transformation in 2012 provided opportunities for students, targeting those with low and average academic performance (Omar et al., 2011), to pursue skills-based courses at lower secondary education of Form 1 to Form 3.

A vocational program called Basic Vocational Education (PAV) has been introduced as a system of education geared towards admission into vocational colleges for Certificate or Diploma levels or entry into the workforce. There is even a pathway option for the students to enter higher education with working experiences. The Ministry of Education Malaysia (MOE) is also committed to strengthening vocational education identified under the first wave of the Malaysian Education Blueprint 2013-2025 (MEB 2013-2025). Since then, vocational education has undergone tremendous changes in curriculum as it

lays more focus on developing the practical knowledge of the students (70% vocational skills training, and 30% academic education) (Ministry of Education, 2013) to meet the challenges of Industrial Revolution 4.0 (IR 4.0). Besides, the students are also being trained in soft skills needed at the workplace, such as communication, leadership, critical thinking, problem-solving, teamwork, and entrepreneurial skills (Azmi & Hisyam, 2012).

As planned by the Ministry of Education (2013), vocational colleges are responsible for producing 10 percent of entrepreneurs by providing entrepreneurship modules and activities. These entrepreneurial activities present a range of benefits, for example, creating jobs, generating wealth, and growing the national economy (Ahmad & Xavier, 2012). Entrepreneurship offers opportunities for vocational college graduates to generate good income using the skills learned and more resilience to life challenges (Sabouripour & Roslan, 2015).

The relevant skills and work-based experience have provided an added value and have given them an edge to become entrepreneurs. The tendency to be involved in the entrepreneurial field can be increased with engagement in entrepreneurship activities. According to Gerba (2012), students undergoing entrepreneurial education (EPE) have better entrepreneurial intentions than students without EPE. Exposure to EPE may lead to a growing interest in an entrepreneurial career (Izquierdo & Buelens, 2011), thus increasing the level of entrepreneurial intention to

become a full-fledged entrepreneur (Barba-Sánchez & Atienza-Sahuquillo, 2018). Entrepreneurial intention is a person's desire to have their own business or start an enterprise (Bacq & Alt, 2018). The intention has been used to describe a person's self-prediction to engage in a behavior and is identified as the best predictor of good behavior (Ajzen & Fishbein, 2000). Socio-psychological studies consider the intention to be the best predictor of actual behavior (Zaremohzzabieh et al., 2019). Identifying opportunity is planned; therefore, entrepreneurial behavior is planned behavior that involves one's intention.

Much research in Malaysia has been conducted to identify the level of entrepreneurial intention, especially among students. Akmaliah and Hisyamuddin (2009) found that entrepreneurial intention among secondary school students was moderate. Furthermore, Bahrein et al. (2016) and Norhatta et al. (2015) found the same moderate level of entrepreneurial intention among public and private university students. Another study conducted by Nuringsih et al. (2019) among private college students demonstrated that the level of entrepreneurial intention was high. The same finding was reported by Wan Nur Azlina et al. (2015) when they investigated entrepreneurial intention among students from technical and vocational training institutes. Entrepreneurial intention studies among university students were also conducted in the United States and Turkey by Ozaralli and Rivenburgh (2016). The findings showed the same moderate level

of intention among Turkish and American students. In other words, when the intention is formed, the behavior will be shown by the individual. The intention is the cognitive structure encompassing goals and plans. To achieve goals, individuals define and determine the goals, followed by developing the plans (Ajzen, 2017). For example, one will express the desire to venture into business first before determining the type of business the person wants to venture into. In this study, therefore, entrepreneurial intention is defined as the will or desire of a person to start their own business at some point later in their life.

Student engagement is defined as the amount of physical and psychological energy students contribute to the academic experience (Ajzen, 2017). Students who are more involved in academics and social experiences gain more learning outcomes. Astin (1999) discussed that student engagement could be considered the formation of motivation, emphasizing behavioral conditions. Astin's (1999) Student Involvement Theory emphasizes that student engagement is high if the student uses more energy to study, spends more time in school, is more active in any student association, and interacts more often with classmates or peers. Involvement in the campus community will significantly impact their psychological development throughout their campus life. In the context of this study, the researchers decided to adapt a student engagement model by Fauziah et al. (2012), which is similar to that of Astin's (1999) Student Engagement Model. The

Student Engagement Model divided student involvement into four dimensions: student academic engagement, student engagement with academic staff, student engagement with peers, and student engagement in communities.

Until now, many studies consider student engagement as one of the predictors of academic achievement and soft skills development. Students who are more engaged in the learning environment achieve higher academic performance and show more holistic self-development (Fauziah et al., 2012). Student engagement can also be a benchmark that indicates the quality of effort and commitment level (Kuh, 2009). As student engagement in planned learning activities has a positive relationship with academic performance (Kuh et al., 2008), it can help the administrators to identify activities that enhance student involvement and areas for improvement (Kuh & Hu, 2001). According to Nor Aishah (2013), EPE is a structured environment that provides individual potential development related to all aspects of entrepreneurship through the management and implementation of pedagogical curriculum and assessment. Therefore, student engagement is essential to achieve learning objectives and attract and retain students' attention (Coates et al., 2009). Zaidatol and Habibah (2002) believed that teaching and learning entrepreneurship should be practical to achieve a higher degree of student engagement to help build students' potential through experience. Student engagement in learning has a relationship with student achievement and

considers the role of engagement in EPE towards entrepreneurial intention; therefore, this study aimed to determine the link between students' engagement in learning entrepreneurship.

Technical and Vocational Education and Training (TVET)

Technical and Vocational Education and Training (TVET) has been credited for driving productivity among individuals and employers, thus expanding human resource development (HRD). At the individual level, educated workers, especially those highly trained in their profession, are considered an essential human capital factor that necessitates national development (Ansari & Wu, 2013). As a system, HRD is effective only when it acts as a gateway to job opportunities, and it has emerged as the main conduit in reducing poverty and gender inequality. Thus, prioritizing investments in education and skills development is very important to close the gap between knowledge-based workers and low-skilled workers (Ansari & Wu, 2013). According to a study by Sekerin et al. (2018), HRD contributes to economic development in producing technically trained personnel into all levels of the workforce to meet the socio-economic requirements for industrial growth, without which capital would be wasted. Hence, education for HRD can help people obtain relevant skills and knowledge to address industrial workforce issues that the society or country may face.

TVET students should be shaped to perform in the working life spectrum: serving as employees, working in cooperatives,

pursuing self-employment and start-up ventures, or community development work (Omar et al., 2011). Given this, it is argued that vocational graduates can benefit from a broader range of employment opportunities with EPE. This is mainly because TVET (at all levels of education) is more closely interrelated to EPE compared with general education. First, TVET institutes are already in partnerships with enterprises of all sizes to secure student and trainee training and internship placements. Valuable experiences such as these expose students to entrepreneurship practiced in real-life settings, thus allowing them to gauge the viability of self-employment or starting up a business as an employment alternative. Second, some of the TVET's occupational courses are pathways to self-employment and the establishment of small and mid-size enterprises (SMEs).

TVET should be well prepared to acquire the vital skills needed to minimize the negative effects of the COVID-19 pandemic as well. The pandemic demonstrated the critical importance of many practical service sector jobs. These essential employees include, but are not limited to, logistics workers, ICT support technicians and staff, and health professionals. TVET emphasis on practical skills and its ability to provide short-term, tailored and modular training can be leveraged to quickly upgrade staff in key industries and to enable individuals to participate in emergency response. TVET's focus on work-readiness could also imply that TVET students could relatively easily be involved in the emergency response.

Finally, most TVET curricula already integrate EPE skills development, such as teamwork, problem-solving, and innovative thinking. Therefore, it is widely viewed that EPE is a crucial component among the TVET community, consisting of students, trainees, teachers, and other educational personnel (Badawi, 2013).

As one of the key skills, entrepreneurship is "highly relevant to many professions to which TVET leads, but in traditional vocational programs have often been neglected" (OECD, 2010). In this regard, the critical challenge is recruiting teachers to teach entrepreneurial behaviors and provide guidance to entrepreneurial aspirant students (Fini et al., 2012). Researchers have also highlighted the valuable entrepreneurship element of TVET, which ignites growth in suburban and rural areas (Garlick et al., 2007). The conventional development methods in suburban and rural areas collapsed, pushed by the Australian government, simply because macroeconomic and external economic circumstances were not considered. There are global capitalism, regional economic conditions, and the interrelationships between business organizations (Lerner, 2012). However, enterprising human capital is a significant driver for expanding businesses in the region. Given this, TVET could take center stage as a developer of entrepreneurial competencies through establishing deep and grounded relationships with local businesses.

In vocational education, the entrepreneurship curriculum has been a

mainstay where the principal focus is on managerial knowledge, followed by skills development (Meyer, 2018). For example, the Shanghai TVET Consensus claims that entrepreneurship training is crucial for an effective transition from school to work, given the scale of youth unemployment and vulnerable jobs (Ananiadou, 2013). Broadly, one general agreement is that entrepreneurship can transform globalization challenges into opportunities: “most analysts will now accept that an entrepreneurial spirit is one of the key factors in which societies can address the challenges posed by global changes effectively” (Salzano et al., 2006). Significant academics suggest that the entrepreneurial model can be seen as a crucial way of dealing with uncertainty and difficulty for organizations and individuals, but also as a tool for them to develop and grow on it (Gibb & Hannon, 2006). Similarly, one of the references made in the World Economic Forum (Volkman et al., 2009) was that “innovation and entrepreneurship offer a way forward to address the 21st century’s global challenges, construct sustainable development, create jobs, stimulate renewed economic growth, and advance human well-being” (p. 12).

As innovation is a vital factor for entrepreneurship, it plays a key role in the growth and survival of SMEs, where the entrepreneur and his team of employees are the primary sources of innovation. Innovation is defined as not just doing something new in a different approach but also adding value to business stakeholders,

including the community that benefits from its use (Seet et al., 2018). TVET is in the best position to collaborate with SMEs in three ways to support their business processes and development (Curtin et al., 2011). First of all, vocational training, such as innovation and flexibility, will include general yet basic skills. Secondly, the new core skills of the profession should be presented so that students are well trained to be creative agents. Finally, TVET functions as part of the more extensive production system where its innovation contribution is via continued engagements with the industry. As a result, TVET graduates are in demand among high-tech SMEs (Badawi, 2013). Evidence in Australia also suggests that TVET graduates have a higher tendency to establish SMEs compared to non-vocational graduates (Obwoye & Edwin Obwoye, 2016; Sabouripour & Roslan, 2015).

Toner (2011) described two types of innovation. The first is radical innovation - with a significant investment from the government, this innovation unleashes significant technology, economy, or social landscape. Incremental innovation is the second type where it spawns minor changes to existing processes or products. Toner (2011) suggested that radical innovation was the pivotal agent that tipped the scale of productivity growth. Audretsch and Fritsch (2003) supported this by further stating that big companies’ research and development (R & D) was no longer the most important source of innovation, as previously thought. Innovation today is

mostly contributed by SMEs because they are more adaptable from ideas developed by other companies: This effect is known as the spillover of information. In this context, in the information economy, “entrepreneurship takes on new significance because it serves as a key mechanism by which knowledge produced in one company is commercialized in a new enterprise” (p. 10).

According to Dawe and Guthrie (2004), when examining and discussing the concept of innovation, studies should separate it from scientific discovery. Instead, innovation should be conceptualized as a continuous learning process. Reyes-García et al. (2016), a popular researcher on the cultural roots of human cognition, argued that cultural learning could be seen as a driver of creativity in the context of social cooperation - a community of creative people tackling a problem in which one person could not solve on his / her own. In this respect, Cultural Historical Activity Theory (CHAT), the third generation of activity theory, is useful to examine innovation and entrepreneurial behaviors as an expansive learning process within and between organizations (Yamagata-Lynch, 2007). CHAT is useful because it provides a framework for analyses of the individual entrepreneur within a social collective activity system. Second, used as an intervention theory, studies can examine the triggering event needed to plant the seeds of an entrepreneurial spirit among individuals. Given this, an intervention can be developed based on the theories and

methodologies of activity and intervention to study entrepreneurship.

As discussed above, TVET, rather than other institutes, is the likely prolific hub of innovative ideas. Given the critical relationship between TVET and workplaces, this study focuses on students’ competencies when undergoing work experiences. What is evident in this paper is that entrepreneurship is not just about setting up and operating businesses. It is essentially about grounding a mindset that serves as a resource for individuals to be entrepreneurial throughout their life across multiple lived domains. Correspondingly, to assess the awareness, skills, and attitudes associated with initiating entrepreneurship, innovation, the willingness to work in project teams, the understanding of their limitations and strengths, and self-confidence, the European key competencies in a sense in initiative and entrepreneurship have been selected. Transforming ideas into reality is the key skill in all its endeavors (Morselli et al., 2016). It is broadened to focus on the necessary knowledge, skills, and attitudes that enrich a lifelong learning perspective. The onus is on the individual and their corresponding capabilities rather than their job titles. It is interesting to note that an individual’s capabilities make the connection between people, education, and the workplace as they identify the cultural, social, and economic resources as a means for the individual to develop, be creative, establish autonomy, and exercise informed judgments (Rami et al., 2018; Wheelahan et al., 2012).

Student Engagement in Learning and Entrepreneurial Intention

Student engagement in learning is one of the critical predictors of entrepreneurial intention. At the individual level, student engagement is expressed as students' combined time and energy devoted to learning. At the institutional level, student engagement is the effort that institutes make to increase educational practices (Kuh et al., 2008). Researchers have proposed that to achieve meaningful engagement in entrepreneurship courses, institutes need to adopt the idea that the occurrence of deep learning is underpinned and supported by commonly agreed to learn objectives, student motivation, focus on task-based rather than assessment-based learning, and the interaction between students and the faculty (Biggs, 2003). This paper proposes the use of Astin's Student Engagement Theory to identify success factors for vocational students' entrepreneurial intentions.

First developed in 1984, Astin's (1999) Student Involvement Theory has often been used as a framework in discussing student engagement. Fundamentally, it posits that as students invest more physical and psychological energy in their learning process, they will be more engaged in their academic life. This theory also describes the behavior of highly-engaged students as those who use more energy to study, spend more time on campus, become actively involved in any student association, and frequently interact with their peers and faculty members. Correspondingly, this complex behavior is anticipated among

entrepreneurship students as this very complex process exists in their academic life. When drawing up entrepreneurship courses, many practitioners in the field seek to achieve the desired engagement and the consequent positive learning outcomes by referencing Kolb's experiential learning cycle and styles (Kolb et al., 2001). According to Astin's (1999) Student Involvement Theory, student involvement should be measured using four dimensions: (i) student academic engagement, (ii) student engagement with academic staff, (iii) student engagement with peers, and (iv) student engagement in communities.

Student academic involvement refers to students' academic plans, strategies, and focus during the study period. This engagement is intended to achieve its primary academic goals. Student engagement with academic staff is the interaction between students and academic staff, either in the classroom or outside the classroom, during teaching, or outside teaching hours. This participation refers to the experience of school with student self-development. Student interaction with peers applies to all activities where students collaborate with their peers, including cooperation inside or outside the classroom to complete their assignments or projects, class presentations, and use of electronic media. The engagement of students with events in schools, societies, clubs, and groups in which students are involved in student participation in communities (Gasiewski et al., 2012; Sabouripour & Roslan, 2015).

These four dimensions shed light on primary-level student engagement since they offer a detailed description of the types of campus events in which students engage. They provide insights as to whom students are involved with, where and when the activities occur, and the purpose of involvement. As entrepreneurship is the principal focus in the country's development and economic reform (Nabi et al., 2017),

it is appropriate to study entrepreneurial intention and its relationship with student engagement. As illustrated in Figure 1, this study has examined student engagement in learning EPE based on four dimensions: student academic engagement, student engagement with academic staff, student engagement with peers, and student engagement in communities.

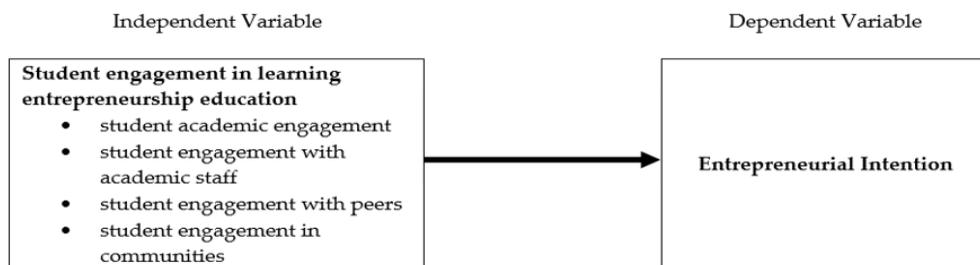


Figure 1. Conceptual framework

METHODOLOGY

For this research, the quantitative approach was used to analyze the relationship between student engagement in learning entrepreneurship education (EPE) and entrepreneurial intent among college vocational students using a survey questionnaire. The study's location had focused on the central zone of Peninsular Malaysia, which covered Selangor, the Federal Territory of Kuala Lumpur, and Negeri Sembilan. The study population consisted of Malaysian Vocational Diploma Year 1 students who took the compulsory entrepreneurship course (UES 2012) in the short semester at vocational training

colleges. Students were given exposure to entrepreneurship's basic concepts, creative and innovative thinking in entrepreneurship, preparing a business plan, and small business management. This course equips students with basic knowledge and concepts of entrepreneurship to plant the seeds and ignite early interest in entrepreneurship. This course also aims to cultivate values to pursue entrepreneurship as a career option. Lessons are in the form of sharing entrepreneurial experiences, discussing and conducting case studies, partake in business simulations, and presentations. The end goal is to shape students' entrepreneurial mindset and for them to be able to demonstrate their entrepreneurial skills in their life.

To determine the sample size, the researchers used Cochran's (2007) formula. A stratified random sampling technique was then used for selecting 267 out of 2883

respondents at 16 vocational colleges in the three states. The demographic profile of the respondents is shown in Table 1.

Table 1
Study demographics (n = 267)

Details of the respondent	N (%)
Age	
19 years old	100
Gender	
Male	53.3
Female	46.7
State	
Selangor	46.7
F.T Kuala Lumpur	15.7
Negeri Sembilan	37.7

The survey questionnaire was adapted from two sources. The Entrepreneurial Intention Questionnaire (EIQ) by Liñán and Chen (2009) was employed for measuring entrepreneurial intention, which consisted of 6 items. On the other hand, the Malaysia University Student Learning Involvement Scale (MUSLIS) by Fauziah et al. (2012) was chosen for measuring student engagement by taking into consideration that this instrument was built based on the profile of Malaysian students, and the items were similar to Astin's (1999) instrument. This scale consists of four dimensions of student engagement: academic engagement, student engagement with academic staff, student engagement with peers, and student engagement with the community. Each item was adapted according to the context

of student involvement in EPE, and the total number of questions was 14. All 20 items were translated into English using the back-to-back strategy and were validated by language and content experts. The 5-point Likert scale was used to measure each item ranging from scale 1 "Never" to scale 5 "Very often." The pilot study shows a high level of reliability with a Cronbach Alpha score of 0.93 for entrepreneurial intention and 0.96 for student engagement in learning EPE. The overall Alpha Cronbach's alpha was 0.916, which indicated a high degree of reliability.

The return of the questionnaire was 94.4 percent. After the data cleaning process, 14 questionnaires were removed due to extreme values, which only left 244 completed questionnaires accepted for analysis.

Descriptive analysis was conducted to determine the level of entrepreneurial determination and entrepreneurial attitude. Using a 5-level mean score developed by Pallant (2020), the mean was interpreted as in Table 2.

Correlation analysis was also conducted to examine the relationship between student engagement in learning EPE and entrepreneurial intention. The relationship's value was interpreted based on Salkind and Rainwater (2006), as shown in Table 3.

Table 2

Interpretations of the mean score

Mean score	Interpretation
1.0 to 2.33	Low
2.34 to 3.67	Moderate
3.68 to 5.00	High

Table 3

Interpretations of the mean score

Size of correlation	Interpretation
0.01 to 0.19	Very Weak
0.20 to 0.39	Weak
0.40 to 0.59	Moderate
0.60 to 0.79	Strong
0.80 to 0.99	Very Strong
1.00	Perfect

RESULTS

Level of Entrepreneurial Intention and Student Engagement in Learning Entrepreneurship Education

Descriptive analysis was used to determine the level of entrepreneurial intention and student engagement in learning EPE. The findings show that both entrepreneurial intention and student engagement in learning EPE were at a moderate level. The

same results were also found for all the dimensions of student engagement. The highest mean score was student engagement with peers, while the lowest was student academic engagement. This indicates that student academic engagement was given the least commitment among vocational college students compared to other engagements. The mean and standard deviations are shown in Table 4.

Table 4

Mean and standard deviation

Variable	Mean	SD	Interpretation
Entrepreneurial intention	3.63	0.85	Moderate
Engagement in learning entrepreneurship education	3.17	0.78	Moderate
Engagement with peers	3.34	0.86	Moderate
Engagement with academic staff	3.20	0.86	Moderate
Academic engagement	3.19	0.85	Moderate
Engagement in communities	3.08	1.08	Moderate

Relationship between Student Engagement in Learning Entrepreneurship Education and Entrepreneurial Intention

This study used a Pearson correlation to measure student engagement’s corresponding strength in learning EPE and entrepreneurial intention. The result indicates a moderate and positive link between student engagement in learning EPE and entrepreneurial intention. Similar results were also found for the dimensions of student engagement of peers and academic engagement. On the

other hand, student engagement with academic staff and communities had a weak but positive correlation. The weak correlation shows a lower likelihood of a connection between entrepreneurial intention and the two dimensions - academic staff and communities. The results displayed that students are less likely to become entrepreneurs and start their own business after graduation since the academic staff has less influence and dedication to the decision of graduates to pursue a career in entrepreneurship. The results are shown in Table 5.

Table 5

Calculation of correlation coefficient

Variable	Entrepreneurial intention		Interpretation
	<i>r</i> coefficient	<i>p</i> -value	
Engagement in learning Entrepreneurship education	.437	significant	Moderate
Engagement with peers	.438	significant	Moderate
Academic engagement	.405	significant	Moderate
Engagement with academic staff	.348	significant	Weak
Engagement in communities	.336	significant	Weak

Multiple regression was performed to determine the predictive strength of the independent variables (engagement in learning, entrepreneurship education, engagement with peers, academic engagement, engagement with academic staff, and engagement in communities) towards the dependent variable (entrepreneurial intention). Table 6 shows the coefficient table of the predictor results.

Based on Table 6, the results of the regression reveal that the six predictors

explained 84.7% of the variance ($R^2 = .85$, $F(6, 237) = 106.64$, $p < .05$). Table 6 shows that engagement in learning ($\beta = .184$, $p > .05$), engagement with academic staff ($\beta = .268$, $p > .05$), and engagement in communities ($\beta = .580$, $p > .05$) predict entrepreneurial intention. However, entrepreneurship education ($\beta = .031$, $p > .05$), engagement with peers ($\beta = -.010$, $p > .05$), and academic engagement ($\beta = -.041$, $p > .05$) did not significantly predict entrepreneurial intention.

Table 6
Multiple linear regression results

Model	Unstandardized Coefficients		Standardized Coefficients Beta	t	Sig.
	B	Std. Error			
(Constant)	.681	.159		4.274	.000
Engagement in learning	.219	.049	.184	4.437	.000
Entrepreneurship education	.024	.237	.029	.099	.921
Engagement with peers	-.008	.138	-.010	-.057	.954
Academic engagement	-.024	.048	-.041	-.498	.619
Engagement with academic staff	.204	.071	.268	2.882	.004
Engagement in communities	.434	.030	.580	14.231	.000

Note. Dependent variable: Entrepreneurial intention

DISCUSSION

This study examined the relationship between student engagement in learning entrepreneurship education and entrepreneurial intention among vocational college students. This study found that the overall level of the entrepreneurial intention of vocational college students

was moderate. In this study, the findings explained that vocational college students intended to become entrepreneurs, and they would be more likely to start their own business. Based on further analysis by item, it was reported that the item with the highest mean score was “I am determined to open my own business in the future.”

Meanwhile, the second highest is “I will work hard to set up my own business.” These are clear indications of students’ initial and seeded intention to venture into entrepreneurship. However, the intention is lower, which remains insufficient to give the final push to run their own business. The item supports this observation “I am ready to be an entrepreneur,” which had the lowest mean score. It shows that students have not seriously considered becoming entrepreneurs despite having the intention to get involved in the business world.

The compulsory entrepreneurship course (UES 2012) may not be enough to boost students’ aspirations in entrepreneurship to the maximum and transform that aspiration to entrepreneurial intention. It is somewhat surprising because EPE has been implemented formally at every level of education. The business and entrepreneurship components are taught in primary school, and after that, through subjects at the lower and upper secondary levels. In reviewing the literature, students who go through EPE should display a more positive attitude towards entrepreneurship (Rudhumbu et al., 2016). Nevertheless, this study found that formal EPE, which started at an early stage until higher education level, was less likely to stimulate innate interest in entrepreneurship and develop students’ entrepreneurial intention to become self-employed. The moderate level of entrepreneurial intention seems to be consistent with other studies by Nor Aishah (2013), Norhatta et al. (2015), and Ozaralli and Rivenburgh (2016). However, this

result differs from some published studies among private college students, as reported by Hishamuddin (2007) and students from technical and vocational training institutes, as investigated by Wan Nur Azlina et al. (2015).

To measure student engagement in learning EPE, this study focused on four dimensions: student academic engagement, engagement with academic staff, engagement with peers, and engagement in communities. One unanticipated finding was that a moderate level was found for all four dimensions and the overall mean score. This confirms that vocational college students were not fully engaged in the learning process throughout the entrepreneurship course. Student engagement in communities and student academic engagement were the two lowest engagements compared to others. Besides, the item “I also plan entrepreneurial activities organized by clubs or classes” was found to be the lowest among all items for engagement. A possible explanation for this result may be that vocational education does not focus on academic performance, and there is only one module for entrepreneurship towards the end of the Diploma program. With limited knowledge and low involvement in ‘learning by doing,’ they are more likely to fail in developing any deep and long-lasting commitment in EPE. Middleton et al. (2014) supported this view, writing that “experience-based learning is recognized as a vital tool for training people for entrepreneurship practice.”

On the other hand, engagement with peers shows the highest mean score, which

describes heightened engagements with peers when completing assignments, doing revision, and sharing knowledge throughout entrepreneurship learning. This is because they feel more comfortable working and interacting with their peers. Several studies have found that peers can influence academic motivation and classroom engagement (Kiefer et al., 2015). Besides, the findings showed a low association of engagement between students and staff which was a key role in contributing to students' engagement with their study and the learning community as a whole was very weak among participants which are in contrast with Schreiber and Yu (2016). This mainly due to the inability of educational programs that could not create a bilateral relationship between two sides that needs to be adressed by future studies.

A moderately positive association between student engagement and entrepreneurial purpose implies that these two factors have a major correlation. One reason is that EPE exposure to practical entrepreneurial environments among vocational college students and has aroused their interest in venturing into entrepreneurship. It confirms that engagement in learning entrepreneurship can directly increase students' intention to become an entrepreneur. Therefore, students who devote their physical and psychological energy for academic and social experiences achieve more learning outcomes because students' involvement in planned learning activities has a positive relationship with academic performance (Tinto, 2017). This is very much in line with the requirements

to become an entrepreneur who will need much practice and conceptual skills to face a complicated and involved process (Toscher, 2019). This study also reveals the need to improve student engagement in learning EPE since student engagement can positively enhance students' entrepreneurial intentions (Fayolle, 2005). Therefore, the group-based learning method is more effective since students learn best and are more engaged in learning when they work together in groups (Hassanien, 2006). Besides, efforts need to be made to provide more experience for students to engage in entrepreneurship-related activities. Therefore, the entrepreneurship course (UES 2012) should be extended because the current outcome has yet to make students seriously consider starting a business after graduation. Moreover, vocational college students need to be aware of EPE's importance in providing them with the opportunities and potential for self-employment, instead of expecting a paid job.

CONCLUSION

The entrepreneurial intention of vocational college students reflects their desire to engage in entrepreneurial activities as the intention is shown through observed behaviors. Hence, a moderate level of entrepreneurial intention indicates that entrepreneurial behavior remains inadequate to ensure the students' readiness and ability to start a business. Thus, it is anticipated that the number of vocational college graduates who tend to venture into entrepreneurship fields will remain low compared to

other graduates from public universities, polytechnics, and community colleges. As a result, the Ministry's target to produce 10 percent of graduates who choose to become entrepreneurs will not be met soon. As a response, the entrepreneurial skills and knowledge among vocational college students need to be enriched by designing and organizing activities that encourage student involvement in business and entrepreneurship, both in the classroom and outside with real-world settings.

Besides, academic staff need to be smart and creative in organizing and strategizing how entrepreneurship can be taught and learned while instilling and nurturing entrepreneurial characteristics. Nevertheless, another challenge for EPE educators is delivering the practicum-based curriculum during and post Covid-19 (coronavirus). Undoubtedly, in making the dramatic change to online learning, this pandemic has greatly impacted educational cultures. It meant having to make a quick but massive transformation of the curriculum and establishing new learning styles that fit on a virtual platform. Despite the dramatic change, the community of entrepreneurship educators, especially those in the higher education sector, are still grappling in the dark about moving away from delivering the conventional curriculum that heavily relies on practical and immersive training. Thus, a future study can discuss specific ways that communities of entrepreneurship education practitioners can undertake to deal with teaching, learning, and assessments during and post the Covid-19 pandemic.

ACKNOWLEDGEMENT

We would like to acknowledge the respondents for their involvement and researchers who contributed in this study.

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Character Development and Youth Leadership Mentoring

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ABSTRACT

One approach that promotes Positive Youth Development (PYD) among youth is being involved in leadership activities. Focusing on the mentoring process in a leadership development program serves as the foundation for cultivating these positive aspects for the young generation. The purpose of this study is to explore the character development process in promoting developmental assets through youth leadership mentoring. The study was conducted using qualitative research informed by the case study paradigm that involved 13 informants through in-depth interview, participant observation and document analysis as data collections. Empirical findings from the study show that mentoring process such as the display of prudent characteristics, integrity development and preferred leadership style among youth leaders lead to character development. In conclusion, the data indicated that mentoring clearly had the potential to constitute the process of character building among youth. This youth leadership mentoring process contributes to the development of their capabilities in leadership and enhances the implementation of effective youth leadership mentoring processes.

Keywords: Character development, ecological asset, leadership, mentoring, individual asset, youth

ARTICLE INFO

Article history:

Received: 13 November 2020

Accepted: 11 March 2021

Published: 14 April 2021

DOI: <https://doi.org/10.47836/pjssh.29.S1.03>

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INTRODUCTION

The Positive Youth Development (PYD) approach, which provides the theoretical basis for developing youth potential (Lerner et al., 2015), essentially requires empirical investigations to understand the character development of youth leaders by mentoring.

Researchers and practitioners concur that the involvement of young leaders in nation-building can be strengthened through wider exposure and professional training, as well as through mentoring. As a learning process, mentoring has been shown to enhance youth development outcomes such as raising the competence of youth leaders. Notwithstanding the challenges of mentoring, policy-makers of youth development programs should highlight its benefits (Woodman & Wyn, 2013).

In Malaysia, youth leadership development is a primary focus in Malaysia's development agenda as outlined in the Malaysian Youth Policy 2015 initiative. In line with Malaysia's vision of becoming a developed nation, the policy aims to strengthen the leadership development process among youth so that the nation will rank among the top countries in the world in terms of economic development, citizen well-being and innovation (Malaysian Youth Policy, 2015).

According to Hastings et al. (2011), youth leaders often do not see themselves as decision-makers because some adult leaders fail to adequately pass on the skills, experience, opportunities and motivation needed to lead. Moreover, the process of nurturing youth leadership, if not well-planned, may inhibit young leaders from actively participating in the community development process, thus resulting in youth leaders lacking a sense of connection to their communities (Christens & Dolan, 2011; Tepus, 2018).

The development of youth leadership is a priority area of Malaysia's development agenda as outlined in Malaysia's Youth Policy (2015) and Youth Societies and Youth Development Act 668 (2019). The situation is compounded by the fact that the government through policy and act has formally re-classified youth as those between 15 to 30 years, compared to the previous range of 15 to 40. With a younger cohort of youth leaders taking on formal leadership roles within the country in the near future, there is much concern regarding the leadership readiness of this group.

Scholars contend that youth leadership development requires participative learning and role models that can be emulated (Franklin & Nahari, 2018; Lerner et al., 2007). According to Li and Wang (2009), youth involvement in leadership activities is one of the approaches in the PYD concept and youth involvement in leadership activities is central to the youth development process. The focus on PYD is the basis to developing positive youth elements (Ward & Ellis, 2008), which principally requires empirical understanding to uncover youth mentoring potentials in PYD development through leadership. For decades, leadership has always been seen as a vital factor in organisational effectiveness and also in the youth development process (Aziz, et al., 2020; Rami, et al., 2020a, 2020b).

However, youth leadership development requires facilitated learning and exemplary role models. Findings from the most recent Malaysian Youth Index (2017) in

self-potential domain indicate that this is currently the situation in Malaysia, i.e. youth's readiness to lead is decreasing to 66.39 from 71.94 in 2017. In addition, there are concerns about the ability of Malaysian youth to lead. Therefore, mentoring-based leadership development programs is one of the intervention strategies to increase youth's readiness to lead. Kay and Hinds (2012) suggested that mentoring had the potential to provide such a learning process. According to Cote (2019), the development of a proactive youth identity has to do with self-regulation, self-discipline and self-reflection. These three elements are important in the development of the cognitive capacities, tendencies, attitudes and social relationships of youth embodied in the development of youth identity.

Therefore, this study was conducted to explore how mentoring-based leadership development programs could promote developmental assets in positive youth development. Through mentoring, youth are given the opportunity to develop their leadership skills and build relationships with their mentors. The advantage obtained by the youth through leadership mentoring is associated with the criteria of effective youth development (Meltzer et al., 2019). The mentoring process investigated in this study involved input from mentors and the Ministry of Youth and Sports Malaysia as the program planner and mentoring provider.

Adopting a qualitative approach, we used the case study paradigm to examine youth's ability to conduct social activities,

their exposure to community program planning, and their mastery of soft skills as a result of mentoring. We investigated whether mentoring had the potential to develop various competencies among youth, especially leadership qualities.

LITERATURE REVIEW

Positive Youth Development

Positive Youth Development (PYD) rests on two main concepts. The first is that youths possess inherent strengths or assets that form the foundation of their cognitive, emotional, social and behavioural development (Gestsdottir et al., 2011; Phelps et al., 2009). Second, their well-being will be enhanced when their strengths are compatible with, and facilitate, appropriate behavioural reactions to their surroundings (Benson et al., 2006), resulting in positive development. The individual development process in the PYD context involves adaptation of developmental regulations between youth strengths and asset development within a particular ecology (Phelps et al., 2009).

The PYD perspective stems initially from a positive psychological concept, the result of comparisons made by psychologists and biologists studying plasticity in the human development process. Specifically, the PYD perspective may be encapsulated in the term 'plasticity'. The term 'plasticity' implies potential for more systematic changes in human development (Lerner et al., 2005; 2007). The process requires internal and external support. According to Theokas et al. (2005), the combination of internal and external situations for the development of

PYD elements mentioned above are known as individual and ecological assets (Lerner et al., 2012).

The internal asset is an element that guides youths to make choices related to their strengths, hopeful future expectations, internal self-regulation and positive school engagement. Meanwhile, the external assets are ecological assets mostly related to positive experiences obtained from others, and the institutions they are involved with (Lerner et al., 2012). Joint benefit can arise from the individual and ecological assets in the context of their relationship with PYD through five elements ('5 Cs') (Lerner et al., 2005), as illustrated in Figure 1.

Theoretically, the ecological assets are associated with the developmental process of positive youths, consisting of the '5Cs' (confidence, competence, character, caring, connection) that encourage positive behaviour among youths (Lerner et al., 2007). When plasticity in human development is acknowledged, this will directly lead to building positive development of the individual's potential (Larson, 2006). Therefore, developmental system theory is also embedded in the youth development process, which is linked to positive youth development (Theokas et al., 2005).

Internal assets guide youth to make choices related to their strengths, such as future expectations, internal self-regulation and positive school engagement. External or ecological assets in one's environment include positive experiences with others, and the institutions with which

youth are involved (Lerner et al., 2012). As earlier stated, when individual and external assets are maximized, the result is a positive, thriving individual with five core PYD outcomes referred to as the '5Cs' (competence, confidence, character, connection and caring) (Lerner et al., 2005; 2015).

An interesting study by Årdal et al. (2018) examined the mediating effect of the '5Cs' towards the PYD on the relationship between students' perceived school empowerment and school satisfaction. A cross-sectional survey conducted among 997 students highlighted that apart from the '5Cs' elements of PYD, only three (3) elements, which were competence, confidence, and connection factors were fully mediated through the effect of school empowerment and school satisfaction. The other two 'Cs' seem to require more emphasis among the youth for them to be well rounded with positive youth development. From a PYD perspective, the role of a mentor is to collaborate with, encourage, and support the capacity of their protege to success (Larson, 2006). When youth are actively involved in the mentoring process, they are more likely to sustain positive growth and development. Therefore, the beginning of mentoring is needed to apply PYD elements in mentoring by employing the approach as suggested by Delgado (2002). This approach is in line with Lerner et al. (2013) who recommended PYD as an approach to develop youth potential.

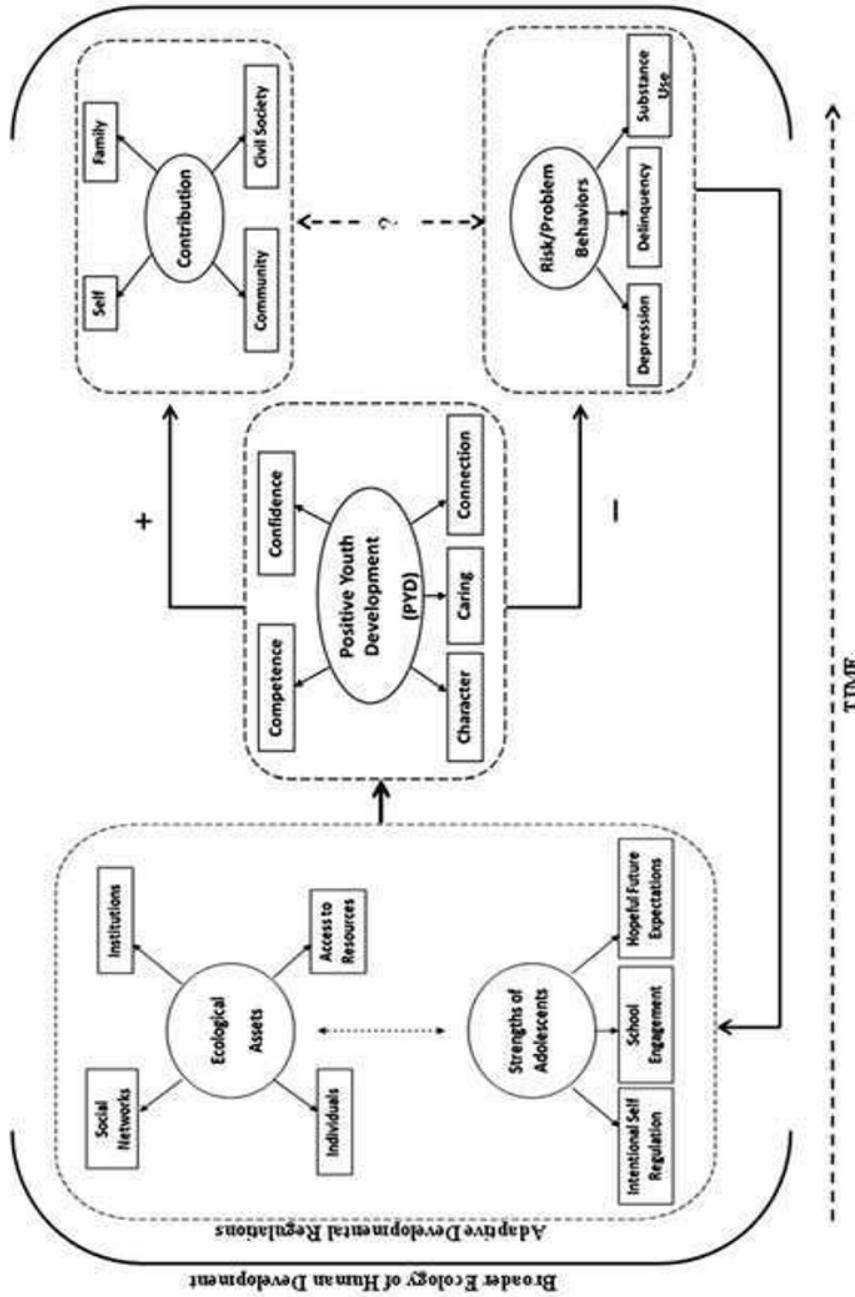


Figure 1. The relational, developmental systems model of positive individual involved in PYD (Lerner et al., 2005)

Mentoring and Leadership Development

Generally, mentoring is a relationship between two parties, in which one party (the mentor) guides the other (the mentee) through a period of change and towards an agreed objective, or assists him or her to become acquainted with a new situation (Kay & Hinds, 2012). Furthermore, leadership mentoring highlights the learning process of a one-to-one relationship, especially in traditional mentoring (Reagan-Porras, 2013), with the more senior and experienced individual as the mentor who supports the protege's career development (Eller et al, 2013; Ragins & Kram, 2007). Chaudhuri and Ghosh (2012) asserted that traditional mentoring built normative impression towards the process in which a mentor helped a mentee through a period of change.

Mentoring may take place in two situations, namely, formal and informal mentoring (DuBois et al., 2011; Hezlett, 2005), both with differences in learning development (Parise & Forret, 2008; Pryce & Keller, 2011). In addition, mentoring provides the opportunity for youth to gain access to ecological assets in the community in which they are involved. This will lead to the further attainment of the '5C' outcomes, which eventually would be reflected in contributions made by the youth (Lerner et al., 2013).

The mentoring approach makes use of an enabler to encourage innovation, learning and continuous development (Kiltz et al., 2004). The dynamic mentoring theory contends that the principle of mentoring

learning involves a close relationship between mentor and protege, whereby the latter learns by observation and demonstration by the mentor (Balcazar & Keys, 2013). Through mentoring, opportunities for gaining new experiences are made available at an exclusive level, by placing the protege under another individual's supervision (Flores, 2011; Greeson, 2013).

According to Lerner et al. (2013), positive learning outcomes from mentoring is influenced by the support given by the mentor and experiences gained by the protege. As such, youths require good role models to follow (Garcia, 2009). Hence, mentoring is a developmental process that requires involvement and commitment from both mentors and proteges (DuBois et al., 2011).

Mentoring may take place in two situations, namely, formal and informal mentoring (DuBois et al., 2011; Hezlett, 2005), both with differences in learning development (Pryce & Keller, 2011). Kram's mentoring theory in Ragins and Kram (2007) asserts that informal mentoring encourages protege to learn to develop naturally towards what is known and based on priority. Meanwhile, in formal mentoring, protege and mentor work together through a few processes with the support of an organization (Eby et al., 2013; Ragins & Kram, 2007). According to Balcazar and Keys (2013), youth mentoring relationships become stronger when mentor and protege consistently spend time together for a significant duration.

Rhodes and DuBois (2008) asserted that positive experience from the socio-emotional aspect in mentoring relationships might encourage youths to interact with others with an increased perception towards their parents, peers and adults within the proteges' social network more effectively. Besides that, the environmental factor between an individual, family and his/her surrounding also impacts the mentoring relationship and the process of nurturing positive youths (Rhodes, 2005). Therefore, youth leadership development through mentoring is relevant to positive youth development.

To cultivate and encourage both elements of PYD characteristics and positive youth contribution in youth development process, mentors need to play their roles in managing their interaction with proteges when mentoring so as to mirror three important aspects, namely skills development, youth leadership development, and relational continuity between adults and youths (Lerner et al., 2007). Learning from mentors includes emulating the behaviour or actions of mentors, inculcating charismatic values, and making a commitment towards positive transformation (Blass & Ferris, 2007; Eby et al., 2013; Ragins & Kram, 2007; Sanfey et al., 2013). Effective mentoring enables the development of youth potential by providing opportunities for youths to build up various skills, especially leadership skills that will assist in their positive development (Lerner et al., 2013).

Character Development through Leadership Mentoring

From the mentor-based youth leadership program perspective, positive behaviours and attitudes (as a result of the knowledge formation process) are indicators of successful positive youth development through the knowledge formation process, behaviour and positive attitude of the participants cultivated from the systematic program development (Lerner et al., 2005; 2011; Silbereisen & Lerner, 2007). It is important to take into account the current needs of youth when planning youth development programs (Cullen et al., 2012). A proper planning of a developmental program should explain in detail the learning outcomes based on the objectives. Leadership mentoring gives youth leaders the opportunity to make themselves worthy through their contributions to the community, based on the application of PYD elements (Benson et al., 2011). In mentoring, the protege can potentially acquire knowledge and leadership skills from his or her mentor, both formally and informally.

Concrete research by Garringer et al. (2017) led to the largest data collection effort to examine the prevalence and practices of youth mentoring programs across America. The national survey involved an information gathering from 1,271 mentoring agencies, 1,451 distinct mentoring programs, 413,237 youth served by 193,823 mentors and supported by 10,804 staff members (Garringer et al., 2017). The final results reported that there is an increasing need

for effective youth mentoring programs, creating more accessible tools and guidance, and better support and integrated “informal” mentors in order to cultivate towards positive behaviours and attitudes of successful positive youth development (Garringer et al., 2017).

Based on theoretical perspectives about mentoring and positive youth development, effective mentoring enables the development of youth potential by providing them with the opportunity to develop life and leadership skills; positive youth development will, therefore, be enhanced (Lerner et al., 2013). Besides that, the environmental factor also impacts the mentoring relationship as they interact with others in their surroundings (Rhodes, 2005). Therefore, the current study was conducted to explore the process of mentoring toward the realization of positive youth development and how the protege’s sense of contribution to the community and youth stakeholders would be enhanced through the mentoring process.

MATERIALS AND METHODS

A case study paradigm was used in this research that adopted a qualitative approach. The data were collected through in-depth, semi-structured interviews and supported with relevant information from group discussions, participant observations, document analysis, and field notes. Using the Malaysian National Youth Leadership Development Mentoring Program as the source for data collection, a total of 13 informants were involved in this study. They included mentors, proteges, the

program organizers and training providers, all of whom were identified by purposive sampling. The purposeful sampling of the study was based on the following criteria: a) informants were either proteges, mentors, organizers or training providers; b) proteges had achieved high scores on their assessments throughout the mentoring process; c) informants were willing to share learning experiences related to mentoring; and d) mentors were experienced in managing the mentoring processes. Snowball sampling was also carried out when participants introduced their friends to the study. Ultimately, the sample comprised those who were able and willing to provide the necessary information on the issues under study as suggested by Merriam and Tisdell (2016) for purposive sampling strategy in qualitative research.

Initial data analysis was done immediately after the first interview. Various categories and themes were identified before the second interview was conducted. To foster a professional relationship between researchers and informants, the former established rapport to develop trust. First, the lead researcher moved into the field and identified several potential informants to be involved in the study. In several meetings, the researcher introduced the objectives of the study and sought the informants’ consent to be involved in a series of in-depth interviews. To strengthen the reliability of data obtained from the informants, the researchers sought their permission and cooperation to carry out observations of their activities.

A total of 13 informants were involved in the study and the duration of each interview was between 50 minutes to 1 hour and 30 minutes. As suggested by Creswell and Poth (2018), data were collected until saturation point or data redundancy was achieved. Transcriptions of the interview sessions were examined several times to capture features of talk such as emphasis, speed, tone of voice, timing and pauses during the interview. The data were further analysed through coding and categorizing of themes using NVivo software.

Trustworthiness is a concept for determining whether this study is valid and reliable and whether the study set out to investigate what it is supposed to. This study consisted of four main aspects, namely credibility, transferability, dependability, and conformability. As suggested by Merriam and Tisdell (2016), validity can be achieved by making a comparison between the descriptions and explanations, and whether these explanations fitted the description perfectly. Validity is a hallmark of qualitative research, determining whether the findings are accurate from the standpoint of the researcher, participant, or reader (Creswell & Poth, 2018).

In this study, validity was achieved through the use of audit trail, member checks and peer examination. An audit trail refers to the steps adopted by the researcher at every stage of data collection and analysis (Creswell & Poth, 2018). Furthermore, the researcher needs to document the preparation of the proposal, construction of interview protocol and questions, data

collection as well as the process of analysing the data. Member checks are used to reconnect the researcher to the informants to verify consistency in interpretation of the data (Silverman, 2013). The informants are subsequently contacted for clarification of facts of findings. As suggested by Creswell and Poth (2018), peer examination was also used to obtain feedback and consultation from several youth experts to verify data analysis and interpretation.

RESULTS AND DISCUSSIONS

From verbatim transcripts and significant statements extracted, the findings showed how proteges developed their identity through the mentoring process. In this study, the mentoring process was found to be helpful in three ways: 1) displaying prudent characteristics; 2) promoting integrity development and; 3) shaping preferred leadership style among youth leaders.

Displaying Prudent Characteristic

The process of leadership mentoring that the protégé goes through has proven to be prudent. The experience of learning through the efforts made by the mentor will help in changing the nature of the protégé's to be humble and prudent. Working with community can give the protege the opportunity to develop the positive effect that builds on the protégé's character. Protégé 2 stated that:

“... I learned what it means to be humble. The first lesson from mentoring is being prudent. When I have no power,

I feel like I have power. But when I was empowered, I never used my power. My mentor never showed his autocratic style, conquered everything. If he can do it, how about me. Many people I have seen misused the power that had been given to them. ... ”

The value of prudent characteristic built through mentoring enables the protege to adapt that learning directly from mentor's appearance. Based on the works of Lerner et al. (2005), there are several specific steps that could be taken by mentors to develop all the five 'C' traits within their protege. The theory of developmental systems posits that the changes in protege development are assisted by mentors who prioritize positive development as a process whereby the individual and the context (related environment) are dynamically combined throughout the mutually beneficial interaction (DuBois et al., 2011; Lerner, 2004). This means that researchers study things in their mentoring settings, attempting to interpret protégé's passion in terms of the leadership meanings to them. Protege 4 stated that:

“... But when I saw my mentor who was so passionate about the leadership of these young people, so I started to engage. I started to meet, I felt I needed to go through this local youth leader. No matter what I say I have a great idea, they have a way... any idea or thing, easily through a local youth leader. ... ”.

A sense of accountability to the person being led is always instilled by the mentor. The responsibilities of good leaders must be based on prudent ways and approaches. Protégé 6 stated:

“... I can understand how people approach it. How to tackle people of different races. By the way the term is called grassroot approach, with humility. The way we approach people of different ages. He doesn't see a gap. When there's no gap, people like it. Even when I see my mentor, I don't care what the people call him. He has no gap. He treats everyone. People came and saw that people liked him so much...”.

Prudent leadership is shared with mentors and also helps in improving PYD. To enhance PYD characteristics and youth contribution, mentors need to interact with protégé to determine effective youth development programs (Agans et al., 2014), where mentors can ensure that youth gain access to community-based ecological assets and develop '5C'. Based on the contextual discussion of Lerner et al. (2013), mentoring works to ensure that protégés follow the mentor's personality. Indirectly, youth will make their mentors an example to follow (Meltzer et al., 2019).

Promoting Integrity Development

The application of integrated leadership has been an important aspect of the protégé in the pioneer process of character development. The value of integrity implemented during the tenure affects the value of the protégé's

leadership. This is acknowledged by Protégé 1 who stated:

“...in terms of the value of integrity I always think about before I do anything. What the mentor emphasized to me and what he learned through his treatment really deepened in me. It is my integrity that makes me appreciate what I do. We don't have to do it because someone else is watching. Indirectly, those values of integrity are embedded in myself... ”

The process of building the protégé's inner strength in mentoring is also coupled with the value of honesty by the mentor in strengthening the protégé's stand in the matter of abuse. This was acknowledged by Mentor 1 who sought to ensure the value of honesty was applied to the protégé. Through mentoring, youths are given the opportunity to develop and hone youth leadership skills, as well as maintain the relationship between youth and adults as mentors. The advantage obtained by youths through leadership mentoring is associated with the criteria of effective youth development. Other than that, it provides the opportunity for youths to gain wide access and connection using the ecological assets in the community they are involved in. Protege 5 told:

“... From an integrity standpoint, principles are important, values are important for developing young leaders. To teach them leadership, in governance for example, young leaders should be the spokesmen for the people on leakage, on abuses so that they are aware that integrity is a practice and culture. ... ”

Mentor-based integrity also shaped the protégé's stand and directly prepared young leaders for the future. The mentor emphasized that integrity begins with what is said. Rhodes (2005), Rhodes and Dubois, (2008) and DuBois et al. (2011) suggested that learning through mentoring might contribute to the protege's social-emotional, cognitive and identity development. This element is important in producing leaders who have principles. Protégé 5 stated:

“...What I learned indirectly, as a leader, we must take care of what we say. It is our integrity in what we say. It really makes the preparation, although it looks simple. Sometimes it looks like it's ok, but he still screws up. Every time whenever he goes for delivering speech, with what we say, it is our intention to do it. ... ”

Youth character development involves respect for social and cultural rules, good manners, good and bad judgment and integrity (Agans et al., 2014). According to Lerner et al. (2013), youth characters also include youths who respect social and cultural norms, maintain attitude, morality, and integrity. Youth is considered to have a positive attitude when it comes to maintaining that quality all the time even when no one else sees it (Geldholf et al., 2015). This will directly lead to the formation of the '5Cs' which are essential in developing youths who can contribute positively to the community (Lerner et al., 2007).

Shaping Preferred Leadership Style

Mentoring has shaped the way of protégé's leadership. Proteges, who can easily adapt to any environment, including the mentoring environment, are viewed as individuals with the potential to elevate their self-development. Eventually, the supportive ecosystem will contribute towards positive development of family, the community and civil society (Theokas et al., 2005). Hence, mentoring is an important intervention to develop the potentials of youth. Protege 6 acknowledged:

"... I appreciate the mentor leadership style that is more friendly and approachable to the community. As I said earlier, if anyone wants to complain, he'll be a good listener. The way he acts to solve problems is so efficient. I've even been asked to contact a specific person to resolve the issue. ..."

Leadership qualities that a mentor provides as an approachable leader enable informants to reflect on the characteristics of leaders that are needed and can be modelled. According to Cote (2019), the development of a proactive youth identity has to do with self-regulation, self-discipline and self-reflection and these are important in the development of youth identity. The matter was stated by Protégé 3

"... My mentor character, he respects everyone he meets. He's hard to tell the truth. Who wants to meet her, no matter what, sometimes eh, is the Minister's networking? If he can fulfil it, he will. I

can learn how to mentor and I think this leader is the people's right. ..."

Based on protégé's past experience, the protégé is able to employ mentors to showcase their leadership to subordinates. The mentor has encouraged the protégé to adapt in the same way that he now plays. Protégé 6 acknowledged:

"... It's not easy to get in her area. There are places to go by helicopter, pick-up trucks along timber trails, and there are hours to go by boat. But the spirit of the mentor's approach to the people really impressed me. I'm so impressed. So I'm more committed to helping her and I also tend to be closer to the people, especially those living in the interior. I'm enjoying what I'm doing now. ..."

Based on these findings, the function of a leader as a mentor in a social system is to prioritize the needs of the people. The mentoring method has been shown to be an effective platform to develop youth leadership through access to networking with role models, as well as expand social networks, and access to resources which are the elements in the ecological asset as discussed by Lerner et al. (2005). According to Silbereisen and Lerner (2007), these changes have to do with the development of cognitive capabilities, tendencies, attitudes and social relationships. Therefore, effective youth mentoring programs are creating more accessible tools and guidance, and better support to cultivate towards positive behaviours and attitudes of successful positive youth development (Garringer

et al., 2017). Indirectly, mentoring has increased the social capacity of youth by connecting youth with institutions and society (Lerner et al., 2013).

CONCLUSION

This research was conducted to explore how youth who participated in leadership programs that incorporate mentoring, are nurtured to inculcate positive traits promoted by PYD. The study findings indicated that character development occurred not only during mentoring, but also in the locus of the mentor's organizational community. Previous studies suggest that mentoring can assist in the grooming of youth leaders, but few studies have explored how this occurs. Thus, character development through youth leadership mentoring was not limited only to what occurred within the one-to-one mentor-protégé dyad. This study also found that traits characterised by the '5Cs' in Positive Youth Development (PYD) were developed and strengthened through mentoring. It involves identifying the needs of protégés and then building up the competencies needed to become successful adults by not dismissing them as individuals without potential. Mentors can delve into their protégés' ability as a resource that can be developed and strengthened, whereby their protégés should be nurtured to become effective leaders. With current technology, several well-known personality inventories that are available online can be used by mentors to easily analyse the needs and required character development traits of their protégés.

The utmost priority is to ensure effective mentoring is incorporated in the character development of youth leadership so that the process of producing new leadership talents among youths can be implemented accordingly. The effectiveness of youth mentoring programs is also directly dependent on the planning of leadership development programs. The ability of mentoring techniques in developing character of youth leadership can be seen more clearly if the process of knowledge development, attitude and practice are cultivated to engender a deeper understanding in a case study. However, the mentoring process is not just a simple or easy knowledge transmission to measure in the form of skills, since it also focuses on how far true leadership quality incorporates the PYD elements in youth development processes. The youth are encouraged to take initiatives to enrol into online youth mentoring and leadership programs either offered by their institutions or other organizations in order to improve their leadership quality.

Mentors need to play their responsibilities by providing their protégés some space for themselves to easily adapt to different environments and situations. This mentoring ecosystem can build up the leadership developmental process where both parties, namely the mentors and protégés, collaboratively decide on the potentials to be developed and supported. Mentors should ensure that the form of interaction with their protégé in mentoring mirrors three aspects, namely skills development,

leadership development, and relationship continuity, even after they have ended their formal mentoring. The influence that mentors have on their protégé's character during the mentoring process allows youths to be seen as individuals with the potential to develop themselves and contribute to the community and society.

FUTURE WORKS

The outbreak of Covid-19 pandemic has forced the education sector to fully utilise the e-mentoring and online learning (e-learning) platform to support the continuity of mentoring, teaching and learning. For future works, this study is interested to further explore the youth's perception towards the implementation of the youth e-mentoring programs using an online learning platform and its effectiveness in the development of youth leadership character.

ACKNOWLEDGEMENT

We would like to express our gratitude to the respondents of this study.

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Validity and Reliability of a Self-Acceptance Scale for Youth with Physical Disabilities

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ABSTRACT

Youth with disabilities generally struggle to earn a good livelihood as they journey through life. Disability acceptance is acceptance of impairment or loss of worth or acceptance of failure in the sense of disability. It involves changes in one's values, placing less importance on one's physical disability and more on one's remaining assets or abilities. To develop the Self-Acceptance Scale for youth with physical disabilities (SAS-PD), this study adopted the sequential exploratory design. The scale was administered on 247 persons with physical disabilities. Following the compilation and analysis of qualitative data, a quantitative study was conducted. The Exploratory Factor Analysis (EFA) identified six factors, viz. social stigma, enlargement, and asset value, containment of disability effect, family support, and body acceptance that were represented by fifty items in a questionnaire that covered the attributes examined in the scale. The assessment of the level of self-acceptance by youth with disabilities using the SAS-PD may be a valuable intervention for transition programs.

Going forward, the scale could also be used to build the profile of people with physical disabilities before they begin participating in any face to face or virtual training program. The assessment of youth with disability self-acceptance level enables their parents and teachers to be aware of their mental state and lead to more strategic planning for the teaching-learning approach.

Keywords: Self-acceptance scale, measurement, youth with a disability

ARTICLE INFO

Article history:

Received: 13 November 2020

Accepted: 11 March 2021

Published: 14 April 2021

DOI: <https://doi.org/10.47836/pjssh.29.S1.04>

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INTRODUCTION

Since the World Health Organization declared the outbreak of COVID-19 as a pandemic in March 2020, many lives worldwide have changed. In Malaysia, as in other countries, people have to change their daily routines and social habits. Everyone has to adjust to new routines of social distancing or confinement to home. Tandon (2020) found that Covid-19 was associated with mental health issues due to negative emotions and changes in moods. The ability to adapt is, indeed, very challenging. If people without disabilities have to struggle to adjust to the new normal due to the COVI-19 pandemic, what more people with disabilities. Even before the pandemic, studies have shown that youth with disabilities struggle to make a living. They experience poor mental health outcomes as they grapple with identity-building (Anaby et al., 2013; Karim, & Hassan, 2019), victimization, and depression (Berg et al., 2015). Moreover, due to unpleasant experiences and lack of support (Schuh et al., 2015), the dropout rate for high school students with disabilities was twice as high as their peers, according to Johnson et al. (2012), who also found that over 75 percent of young people with disabilities were under- or unemployed, did not participate in higher education, or stayed home after graduation.

The psychological well-being of youth with disabilities depends on the extent to which they can accept themselves. Studies on disabled youth have yielded mixed findings concerning the quality of life and

acceptance of their disabilities. A systematic analysis conducted by Travlos et al. (2017) on young people aged 12-22 years with neuromuscular disorders and who were wheelchair-bound found that the physical and psychosocial quality of their lives was relatively much lower compared to that of their non-disabled peers. In other words, youths with disabilities are more likely to experience unhappiness. On the other hand, some studies have found that self-acceptance of their disabilities has a strong, positive influence on the well-being of such youth, regardless of social perception. A study by Gorter et al. (2014) on 90 youths with disabilities found that almost all the respondents did not accept or identify themselves as disabled. Interestingly, they were also reported to exhibit significantly higher self-esteem levels, i.e. they had positive self-perception, they were aware of their strengths, they liked themselves, they were satisfied with life, and felt socially-accepted. Very few reported that they had depression, fear, or feelings of being unloved.

Self-acceptance has an important influence on the lives of disabled people. They continue to achieve higher self-esteem, better coping mechanisms, higher expectations and are more motivated to excel as they recognize and embrace their disability (Carl, 2013). More studies need to be conducted on youth with disabilities. An article published by the American Psychological Association (APA) highlights the lack of research on people with disabilities (Walters, 2000), although

some progress has been made. There is specifically a lack of research exploring the identification of impairment among young people and discrepancies between classes of disabilities (Physical Impairment, Chronic Disease, Deaf or Hard of Hearing, Emotional Disability, Learning or Attention Disability). Hence, in this study, we seek to investigate the degree of self-acceptance of young people with physical disabilities.

Literature Review

Youth with Physical Disabilities. To formulate state policies and prepare future strategies, population and demographic statistics are collected by governments. In certain cases, changes in demographic dynamics or living habits can decide the course of policy. However, disability is hard to identify and quantify as a demographic feature (Heslop & Gordon, 2014). Current thinking has shifted from a ‘medical model’ to a ‘social model,’ which defines disability as a type of social disadvantage associated with having an impairment, such as debilitating characteristics that hinder access to buildings and transport systems. While the connection between the influence of a person’s physical disability and the crippling effects of culture on the person continues to be addressed, the social model prevails as the normative framework used in the UK today (Heslop & Gordon, 2014).

In the United Kingdom Disability Discrimination Act (DDA) 1995, a disabled person is defined as “a person with a physical or mental impairment that has a

serious and long-term adverse impact on the person’s capacity to perform normal day-to-day activities.” The DDA 1995 definition also notes that the disability must be such that it affects a person’s ability to perform regular everyday activities and also only if it affects one or more items of a ‘capacity list’. The Equality Commission in Northern Ireland (EQNI) recommends that the list of capacities be eliminated from the definition of the DDA to represent the ‘social model’ of disability, following the UNCRPD approach that describes disability as being:

“The relationship between people with disabilities and attitudinal and environmental obstacles that prevent their complete and successful involvement in society on an equal footing with others is an evolving definition and that impairment”. (www.un.org).

In this respect, young people with disabilities are among the most disadvantaged and excluded classes of youth, and their rights are widely violated. Discrimination does not occur because of the inherent existence of the disability of young people, but because of a lack of comprehension and awareness of its causes and effects, fear of distinction, infection or contamination, or a negative religious or cultural perception of disability. Frequently, young people with disabilities are described and judged by what they lack instead of what they have. They are made inherently fragile by their exclusion and invisibility, denying them respect for their integrity, their

individuality, even their right to life itself (Karim, & Hassan, 2019).

Acceptance of Disability Scale (ADS).

Disability is also seen as a misfortune or "loss of worth" (Dunn, 2019). The disability may lead to underestimating established abilities and a global devaluation of the entity when perceived as a misfortune or value loss. Disability acceptance, on the other hand, is an adjustment to the belief system of an individual in such a way that real or perceived disadvantages from disability do not adversely impact the value of existing skills. It is known that when people with disabilities and their significant others recognize the condition and adjust to changes that may occur from their condition, recovery is faster (Mach et al., 2019; Sabouripour & Roslan, 2015).

Disability acceptance suggests more than reverence. Acceptance goes beyond appreciation because it encompasses the sense that one's actions in self-acceptance are autonomous and responsible (Rashid, 2019; Plexico et al., 2019). Disability acceptance is acceptance of failure in the sense of disability, and it is a phase of improvement in value (Perrin, 2019). Self-acceptance was described by Ellis (2005) as having a positive regard or attitude towards oneself as a whole. The past life experiences of a person are a part of it. Self-acceptance has also been described as the positive or negative acceptance of all one's characteristics. It allows one's significant or non-efficient characteristics to be adequately analyzed and any negative aspects of one's personality to be acknowledged

(Chamberlain & Haaga, 2001). Three behaviors that constitute self-acceptance are (1) acceptance of the body, (2) expressing comfort and love for the body, while all aspects of the body are not entirely fulfilled, and (3) self-protection from other people's negative judgments (Tylka, 2011).

Bennett et al. (2019) initially introduced the concept of recognition of disability based on coping versus succumbing structures that underscore the importance of not allowing society to devalue people with disabilities. The value shift theory shows the great variance in physical impairment reactions. By changing their beliefs to perceive increased personal worth, many individuals learn to handle the detrimental effects of their disability. The degree of disability acceptance is correlated with the degree to which a person (a) accepts values other than those that are in direct conflict with the disability; (b) emphasizes aspects of physical capacity and appearance that contradict his or her disabled condition; (c) does not extend his or her disability to other parts of the functioning self beyond actual physical impairment.

The literature has documented a significant number of indicators of psychosocial adaptation to disability over the past century. Livneh and Antonak addressed at least five interventions that target a person's adaptation to impairment (2005), including the Millon Behavioral Health Inventory (MBHI), (Millon et al., 1979), the Psychosocial Adjustment to Illness Scale (PAIS), (Derogatis & Lopez, 1983), the Sickness Effect Profile (SIP),

(Bergner et al., 1976), and the Reactions to Impairment and Disability Inventory (RIDI), (Livneh & Antonak, 1990). Theory-driven reasoning, reliability, and the use of multiple samples are major strengths inherent in the Acceptance of Disability Scale (ADS) (Livneh & Antonak, 2005). The definition of recognition of impairment is assessed and has been used in various studies (Nicholls et al., 2012; Townend et al., 2010). The original ADS consisted of fifty self-report items. Related to this, Wright's (1983) loss theory focuses on thoughts, beliefs, and emotions associated with having a disability.

Olkin (2017) studied the instrument, despite the broad and continued use of the ADS, and concluded that the ADS did not provide evidence of a systematic measure of the value shift process. In response to these criticisms and the initiative of the creator of the scale to update the language of disability to reflect socio-political and legislative changes, Sánchez et al. (2016) revised the original scale in an attempt to empirically encourage the reliability and validity of the acceptance of loss theory measurement of the scale, as well as to increase its relevance to people with disability.

Sánchez et al. (2016) discovered in their research that the number of ADS items could be decreased from fifty to thirty-two, while still retaining psychometric credibility. The phraseology of some items was updated to disclose terms compatible with wider disability problems, and not just those indicative of recovery programs. Their four subscales rated on a 4-point Likert score reflected four dimensions of adaptation to

the impairment process. In previous studies (Chen et al., 2015; Jo et al., 2010), reliability values of .89 and .934 for the scale have been recorded. The creation and validation of the Self-Acceptance Scale for Persons with Early Blindness (SAS-EB) were undertaken by Morgado et al. (2014). The research participants were individuals with early-onset blindness. The self-acceptance scale included self-protection from social stigmas, feeling and trusting in one's ability, and acceptance of the body. The scale's internal reliability was moderate (range $\alpha = .69-.74$). We adopt these dimensions to establish the Self-Acceptance Scale for Youth with Physical Disabilities (SAS-PD), as discussed below.

- The first transition, the broadening of the spectrum of values, occurs when the individual starts to understand the importance of the values he or she still holds. The need to control everyday life tasks and seek relief from sadness is also enhanced by recognition. People broaden the reach of their values when they can find meaning in events, retained skills, and goals.
- The second transition is the reversal of social stigma concerning a noticeable difference and physical impairment. For instance, following a lower-limb amputation, the individual might have a temporary or lifelong dependency on a walking aid or a wheelchair. There could be a social stigma associated with his or her physical impairment. Stigma

can be a significant barrier to community participation for people with disabilities. Stigmatizing disability behaviors can also impact interactions between individuals with physical disabilities and non-disabled individuals.

- The third change in the value system is to turn comparative-status values into asset (intrinsic) values. Comparative status values are formed when an individual compares a personal quality or skill to some standard. When something is evaluated on its inherent attributes, meaning, and usefulness, asset (intrinsic) values are formed. Instead of being compared to something or someone else, the emphasis is on the intrinsic quality of the item, skill, or entity being measured. Asset valuation causes the value of something that would usually be devalued to be appreciated instead. Comparative claims of status value are harmful to the acceptance process because they represent derogatory personal value assessments and can hurt self-worth and self-esteem.
- The fourth shift, disability containment, occurs when a person can contain the effects of the disability so that functioning structures are not affected. Although an impairment affects only one area of functioning, it can transcend its actual impact and damage other

areas, such as the emotional and intellectual domains, unaffected physical capacity, and overall self-value. This overreaching effect of an impairment is called the spread effect, according to Dunn (Dunn, 2019). If impairment is viewed as a possession instead of a personal attribute, dissemination is less likely (Dunn, 2019). If the disability is viewed as a personal trait, the individual becomes a disabled person, and the trait disability becomes a single whole. As such, spreading is more likely to occur because emotions about the impairment are being lumped together as a personal trait that can impact other individual areas just as any other personal characteristic can. If the impairment, on the other hand, is seen as a property, the individual and the impairment are perceived differently; the disability is not central, but secondary, from this perspective. The user is not a person with an impairment, but a person with a disability.

- When an individual can look beyond physical imperfection and base self-worth on other abilities and values, the fifth shift, subordination of physique relative to other values, occurs. Physical appeal and integrity are highly regarded in our culture. If a person with a disability feels that certain physique qualities have been lost, their emphasis may

increase physical appearance and physical capacity. This physical over-focusing can lead to missing other important values such as friendship, intellect, work, and creativity (Chai et al., 2016). When a person broadens the spectrum of his or her value system, in addition to those related to physique, the focus on physique decreases, and self-worth starts to be decided by abilities and characteristics.

- Changes in family support are the sixth shift. Family members are a vital source of care and support for young people with disabilities in life. With encouragement and support from their families, they would not shy away from interacting with others in the community.

When people make the above improvements, they will be more tolerant of their impairment and will be able to work more adaptively. As it increases self-esteem and self-concept, acceptance is successful in increasing functioning. A strong link between impairment acceptance and self-esteem was found by Ferrin et al. (2011). These results, along with Tutuncu's (2017) study, show that the relationship between acceptance and self-esteem is bidirectional, i.e. increasing acceptance increases self-esteem and vice versa.

The way people with disabilities relate to and perceive others is also affected by acceptance. Meeks et al. (2018) found that there were more optimistic views towards those with disabilities and stronger

self-conceptions towards people with quadriplegia who acknowledged their condition. Another research discovered a major association between disability recognition and overall social relationship satisfaction and improved self-esteem (Tutuncu, 2017).

It was found that young people with disabilities and who understand their disabilities can adjust and deal with their impairments better than those who do not (Dunn, 2019). Whether or not young people recognize their disabilities affect not just how they respond to functional disability but also their potential aspirations and motivation levels. Carl (2013) found that students who accepted their learning disabilities were more inspired than students who did not. Another research showed that people with dyslexia who acknowledged their diagnosis had higher educational targets than those who did not, although the two groups had a similar functional disability (Dunn, 2019). This study also showed that young people who acknowledged their diagnosis put more emphasis on problem-focused coping. While attempting to master challenging content, they were more likely to seek substantive assistance from others and were more likely to stress the importance of social support. This culminated in their being able to withstand the frustration of having to deal with constraints. Conversely, by avoiding exposure to deficits, and denying unpleasant feelings about one's disability, such a diagnosis-rejecting individual was likely to deny the reality that he or she has a disability.

Recognition of one's impairment has a significant effect on the future success of the youth. Studies have indicated that acceptance of one's disability results in one having higher self-esteem, stronger coping skills, higher expectations, and more motivation. The rewards of acceptance would enable young people with physical abilities to be more successful in their personal and academic lives. Unfortunately, there is scant research on such youth, especially in the Malaysian context.

MATERIAL AND METHODS

Participants

The study sample consisted of 247 respondents with physical disabilities. One hundred and thirty-six (71.3%) of them were male, and 71 (28.7%) were female. Before data collection, all participants stated their consent to participate in the study, either by signing an informed consent document or ticking 'I agree to take part in this study' on the online Google form. Sixty-one of them were aged between 20 and 30 years, 92 of them 31 to 40 years, 52 of them were 41 to 50 years, and 42 of them were above 51. Half of them completed their secondary school education (52.2%); while 37.2% had tertiary education (certificate, diploma, and Bachelor or Doctor of Philosophy degrees). A very small group (10.6%) had only primary school education.

Measures

A comprehensive literature review and a series of instrument development workshops were conducted to establish the Self-

Acceptance Scale for People with Physical Disabilities (SAS-PD) in the Malaysian context, common items were used to assess the different domains of physical disability (Abeza et al., 2015). Accordingly, to establish content validity, Ramli et al., (2020), a team of experts also revised the items for face validation and translated them into Malay, taking into account the wordings of the items. In order to create the conceptualization of self-acceptance in physical disability and to assess language suitability, clarity, readability, beauty, accuracy, and logical sequence of items relating to the structure of the SAS-PD Malay edition, after the experts had reached agreement on the wording, a group discussion with the participation of four Malaysian people with physical disabilities. All respondents rated all items relevant to measure self-acceptance in physical disability. They also recommended to the experts the use of simple sentences and easy language.

A pilot test was carried out, with participation by 25 persons with physical disabilities to check on the experience of completing the survey and the reliability value of the instrument. The conducted pilot test resulted in positive feedback from the respondents on the ease of completing the questionnaire. The Cronbach's alpha value of the instrument was between .772 to .988. Therefore, the researchers decided to proceed with the same set of questionnaires for actual data collection. Conducted via two modes, the first mode was face to face data collection with physically disabled

respondents, while the second mode was online, via a Google form as a study conducted by Ghoroghi et al. (2015).

Data Analysis

The IBM SPSS was used to process the data. Before conducting the statistical tests, an exploratory data analysis was carried out to identify missing values and outliers. The SAS-PD factor structure was determined by conducting item analysis and exploratory factor analysis (EFA). The Principal Components with Promax (oblique) rotation was conducted to identify the questionnaire's factor structure in order to establish the construct validity of the instrument (Sahranavard, & Hassan, 2015).

RESULTS AND DISCUSSION

Exploratory Factor Analysis

Assessment of the Suitability of the Data for Factor Analysis. Before conducting the exploratory factor analysis, an assessment was carried out to determine the suitability of the data for factor analysis. The sample size for this study was 247, a figure that was adequate for factor analysis. To check the sampling adequacy of the data for

the exploratory factor analysis, Kaiser-Meyer-Olkin (KMO) and Bartlett Tests were conducted. The KMO statistic returns values between 0 to 1, with values closer to 1 indicating that patterns of correlation are relatively compact (Kline, 2016). The results in Table 1 show the KMO statistic for the 65 items was 0.930. According to Kaiser and Rise, KMO values 0.9 and above are excellent. In terms of commonalities, the obtained scores were higher than .3.

Factor Extraction

Factor extraction involves determining the smallest number of factors that can best represent the interrelations among the set of variables. The method used in the factor extraction is the principal component analysis (Keith et al., 2016). Meanwhile, three techniques were used in assisting in the decision concerning the number of factors to retain, namely, the Kaiser's criterion, scree test, and parallel analysis (Çokluk & Koçak, 2016; DeVellis, 2016). The parallel analysis scree plot (Figure 1) suggested six factors that explained 61.78% of the total variance.

Table 1

Result of sampling adequacy test by using Kaiser-Meyer-Olkin (KMO) and Bartlett's test

KMO and Bartlett's Test		
KMO Measure of Sampling Adequacy		0.930
	Approx. Chi-Square	14204.992
	df	2080
Bartlett's Test of Sphericity	Sig.	0.000

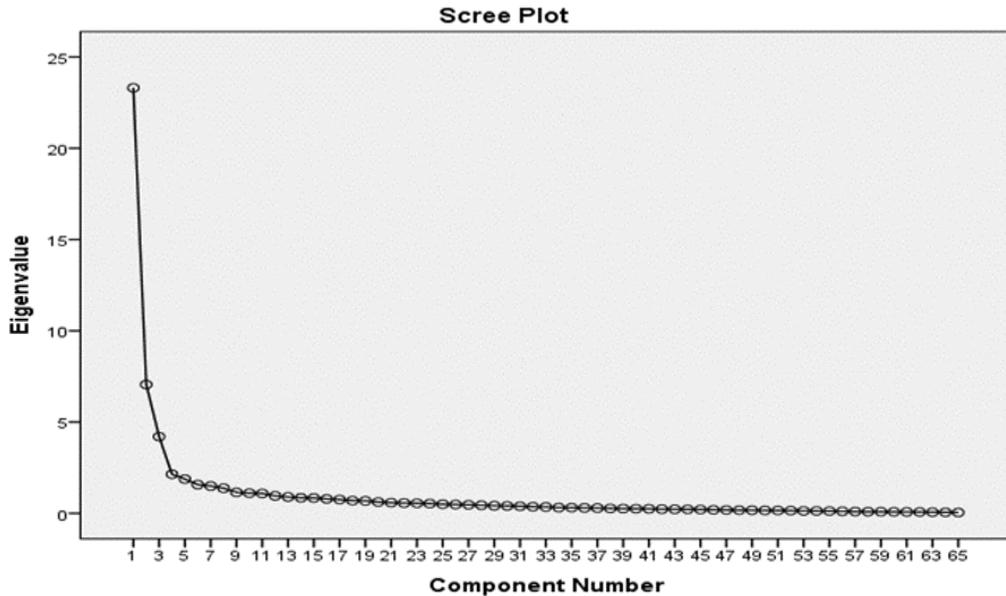


Figure 1. Scree plot

Factor Rotation and Interpretation

Once the number of factors had been determined, the next step was to interpret them. To support the process, the factors were rotated. Several approaches were carried out to determine the rotation that was the clearest and most amenable to interpretation. The best approach chosen was the oblique approach using the Promax method (Weaver & Maxwell, 2014). The results are shown in Table 2. The Pattern Matrix showed that fourteen items could be deleted; the final instrument contained six factors with 50 items. The items characterized these six factors, viz. “social stigma”, “enlargement”, “asset value”, “containment of disability effect”, “family support”, and “body acceptance”.

The social stigma factor had six items. Social stigma refers to the disabled person’s

ability to protect himself or herself from societal judgment. All items had a factor loading value of between .589 and .936. The item that scored the highest factor loading was “*I know my strength, even though other people don’t*” while the item “*I do not feel annoyed by other people’s remarks about my disability.*” had the lowest factor loading score for social stigma.

The enlargement factor had 10 items, and all these items belonged to the same factor as in the original scale (Groomes & Linkowski, 2007). Enlargement refers to the disabled person’s feelings of adequacy, sufficiency, and competence. All the items had a factor loading ranging between .597 and .818. The item “*I feel capable despite certain limitations*” achieved the highest factor loading score. On the other hand, the items “*Now I am starting to inspire other*

Table 2

Factor loadings and Cronbach's alpha of final factors

Factor	Items	Factor Loading	α
Social Stigma (6 items)	I know my strength even though other people don't.	.936	.903
	I am not worried about how people see me.	.908	
	I am not worried about what other people feel about me.	.847	
	I am not worried about how people treat me.	.829	
	I am grateful because I know there are others out there whose conditions are worse than mine.	.677	
	I do not feel annoyed by other people's remarks about my disability.	.589	
Enlargement (10 items)	I feel capable despite certain limitations.	.818	.941
	I am now capable of doing many things despite certain limitations.	.811	
	There are many more essential things in life than physical abilities and appearance.	.783	
	There are many things that people with disabilities like me can do.	.783	
	Despite the disability, I am having a blessed life.	.776	
	I feel satisfied with my abilities.	.772	
	I will do the best in my life now.	.685	
	Now I am starting to help other newly disabled people.	.635	
	Sometimes I forget that I am a disabled person.	.630	
	Now I am starting to inspire other newly disabled people.	.597	

Table 2 (Continued)

Factor	Items	Factor Loading	α
Asset Value (11 items)			.859
	I became a better person after I am disabled.	.836	
	My life changed for the better after I became disabled	.829	
	No matter how hard I try, I will never be better than an able-bodied person.	.807	
	No matter what I achieve, I will not be as great as a non-disabled person.	.773	
	My disability limits many opportunities in my life.	.733	
	I cannot do as many things as a non-disabled person can.	.723	
	My physical disability is the worst thing that could happen to me.	.699	
	The life of non-disabled people is more meaningful than my life.	.686	
	I started looking for my strength after I became disabled.	.663	
	I cannot contribute much because I am disabled.	.601	
Containment of Disability Effect (10 items)	Even though disabled people can excel, our lives are still not normal.	.574	
			.889
	I feel restrained to be like my idol.	.799	
	I feel restrained to do what I want.	.783	
	I get frustrated when I cannot do the things that a non-disabled person can do.	.741	
	My disability hinders me from doing what I wish to do.	.727	
	My disability has negative impacts on my life.	.677	
	Due to my disability, various things in my life did not go as planned	.670	
I feel messy due to my disability.	.661		

Table 2 (Continued)

Factor	Items	Factor Loading	α
Family Support (9 items)	My disability is so annoying that I cannot enjoy my life.	.660	.970
	I can accept my condition.	.634	
	My life is meaningful even though I am disabled.	.610	
	I am comfortable with daily conversations with my family.	.925	
	My relationship with my family members is good now.	.916	
	My family members believe in my ability.	.908	
	My family members make me aware of my strengths.	.899	
	My family members listen to my point of view.	.898	
	My family members encourage me.	.893	
	My family members take me along to functions so I can interact with others.	.876	
	My family members give me positive support.	.872	
	Now my family members are comfortable with my condition.	.809	
	Body acceptance (4 items)		
	I appreciate my body condition now.	.815	
	I appreciate my appearance now.	.728	
	I take care of my appearance now.	.698	
	I know my good qualities.	.692	

newly disable people” and *“Sometimes I forget that I am a disabled person”* were the bottom two terms of factor loading score.

The asset value factor had 11 items, and they did not vary from the original scale. Asset value refers to the disabled person’s feeling of self-worthiness in leading a quality life. Ten of these items had a factor loading score of .6 and above. The lowest loading score was recorded by the item *“Even though disabled people can excel, our lives are still not normal”* which yielded a score of .574.

The next factor was the containment of disability effects that had ten items. Containment of disability refers to the disabled person’s ability to suppress the inability to achieve due to self-condition and external surroundings. The factor loading score of all these items was above .6, with the higher scores being obtained by the item *“I feel restrained to be like my idol”* and *“I feel restrained to do what I want”*. On the other hand, the item that had the lowest score was *“My life is meaningful even though I am disabled”*.

The next identified factor was family support. Family support refers to encouragement and motivation from the disabled person’s family members. Originally this factor had nine items. After carrying out the exploratory factor analysis, the results showed that all items should be retained. The factor loading scores of these items ranged between .809 and .925.

The last factor identified in this study was body acceptance. Body acceptance refers to the disabled person’s readiness to

accept his or her physical self. A total of four items constituted this factor: *“I appreciate my body condition now,” “I appreciate my appearance now,” “I take care of my appearance now,”* and *“I know my good qualities.”* The factor loading scores of these items ranged between .692-.815.

Next, a reliability analysis was carried out on all these items grouped under these six factors. The results yielded a score of .903 for social stigma, .941 (enlargement), .859 (asset value), .889 (containment of disability effect), .970 (family support) and .905 for body acceptance. It indicated that on all six variables, the range of Cronbach’s alpha was between .859 and .970, indicating the instrument’s soundness.

This study describes the development and validation of a Self-Acceptance Scale of youth with Physical Disabilities (SAS-PD) in Malaysia. The results show that SAS-PD is highly reliable and valid. Internal consistency supplements our understanding of reliability, and this measure lets researchers analyze the relationship between the six subscales to see whether they are related and complementary (Shek & Yu, 2014).

While the various subscales assess different aspects of self-acceptance of people with physical disabilities, this study suggests that the six subscales together offer a measure of the degree of self-acceptance or status of people with physical disabilities. The inter-rater reliability of the SAS-PD in Malaysia is excellent.

Using EFA, we identified six factors that were essential to the scale, viz. social stigma,

enlargement, asset value, containment of disability effect, family support, and body acceptance. In this six-factor structure, we noted that 4 items had undesirably low factor loadings. They were “*I do not feel annoyed with other people’s remarks about my disability.*” (social stigma), “*Now I am starting to inspire other newly disabled people*” (enlargement)

In summary, this study examined whether the previous subscales in the measurement of self-acceptance of disabilities (Chiu et al., 2013; da Rocha Morgado et al., 2014; Grooms & Linkowski, 2007) could be adapted to apply to those who are physically disabled in Malaysia. This is the first study to have identified family support as one of the subscales in measuring people’s self-acceptance of physical disabilities. In line with the recommendation by Li et al. (2020) for the process of instrument development, in-depth interviews were conducted to collect relevant information.

CONCLUSION

This study provided important, comprehensive information for the assessment of self-acceptance of people with disabilities in Malaysia. The SAS-PD could be a useful assessment tool for teachers and family members to better understand physically disabled youths’ self-acceptance and render the necessary assistance. Researchers and practitioners have identified a range of key success ingredients of a profession, a college, positive relationships, and opportunities to contribute to the community. These elements

include involvement in inclusive education and other settings (Lavasani et al, 2015; Wehman, 2006), opportunities for leadership growth (Wehmeyer et al., 1998), mentoring, target design experience (Kim & Turnbull, 2004), being polite and maintaining positive social relationships. However, none of the previous efforts have included self-acceptance assessment interventions to understand the participants’ profiles in transition programs. With the identification of such profiles, teachers and relevant stakeholders would be more sensitive to designing more effective transition programs for youth with disabilities. Besides, the scale could also be used to build the profiles of people with physical disabilities before they begin participating in any face to face or virtual training program (Abdul Wahat & Hamid, 2018).

LIMITATIONS

There are several limitations to this study. Although the development and validation of the SAS-PD appear to be psychometrically sound, it needs to be improved further. First, as data were taken only from urban areas, future studies could consider gathering data from rural folks in Malaysia. Differences in social status and environment could yield different results regarding the self-acceptance of youth with disabilities. Secondly, further effort should be made to adapt the self-acceptance scale to other disabilities such as visual impairment, hearing impairment, and intellectual disabilities. Different challenges are associated with different types of disabilities. Thus, there could be

different contributory factors that impact the self-acceptance of youth with disabilities.

THE IMPLICATION OF THE STUDY CONCERNING COVID-19 PANDEMIC

As COVID-19 continues to spread at the time of writing, youth with physical disabilities may be at increased risk for complications. Schools, support services, and routine activities are also disrupted on an ongoing basis. Youth with disabilities would need even more care and attention at such times. If their disabilities are paired with a certain illness, both their physical as well as psychological well-being may be at risk. Following such circumstances, their self-acceptance may or may not be harmed.

Thus, future studies can explore the impact of COVID-19 on youth with disabilities so that better response strategies can be planned in aspects of ensuring that youths with physical disabilities are at their best conditions to access quality teaching-learning experience. The assessment of their self-acceptance landscape based on SAS-PD enables their parents and teachers to be aware of their mental state. The awareness and understanding of their levels of self-acceptance enable parents and teachers to be more strategic in planning appropriate teaching-learning approaches and accommodate their special needs to ensure the best schooling experiences. Youths with physical disabilities deserve as much educational privilege as their able-bodied peers.

ACKNOWLEDGMENTS

I would like to acknowledge that this study was funded by PutraGrant (GP/9569800).

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Role of Career Exploration in Influencing Career Choice among Pre-University Student

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ABSTRACT

In the age of innovation, digitalization, and globalization today, deciding to take a career path has been growing and challenging. The career path continues to increase its stature as a career choice, pursued by many in an evolving, unpredictable, and competitive marketplace. Students' general career selection process is the first step to ensuring that human resources align with the labor market demands. This study aimed to determine the role of career exploration as a mediator in the relationship between social support and career self-efficacy on career choices among pre-university students. This research is a quantitative and correlational study conducted on students in the Agricultural Science of Foundation program at Universiti Putra Malaysia. By using simple random sampling, 249 students were selected based on Cohen's calculation. The researchers used the Career Exploration Survey (CES), Multidimensional Scale of Perceived Social Support, Career Decision-Making Self-Efficacy Scale-Short (CDSE-SF), and career choice instrument surveys to measure the variables in this study. The results show that career exploration acts as a partial mediator in

the relationship between social support and career self-efficacy on career choice. There is not only a significant relationship between the career exploration and the career choice, but also some direct relationship between the social support, career self-efficacy and career choice. This study provides a basis for reference to academicians and instructors designing the pre-university student curriculum in choosing a career. Teachers are also recommended to play an

ARTICLE INFO

Article history:

Received: 13 November 2020

Accepted: 11 March 2021

Published: 14 April 2021

DOI: <https://doi.org/10.47836/pjssh.29.S1.05>

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active role in initiating career exploration activities for students during their learning process.

Keywords: Career choice, career exploration, career self-efficacy, mediator, social support

INTRODUCTION

Industrial Revolution 4.0 (IR4.0) has shifted the world from computing technology to the Internet of Things, Internet Services, Robotics, Big Data, Cloud Manufacturing, Cyber-Physical Systems, Virtual Reality, and Augmented Reality. Combining all these developments will produce a new and smarter system for the community (Pereira & Romero, 2017). According to Hirschi (2018), digitalization and automation may be among the most important issues that form a new career choice pattern, career development, and career counseling in the future. The emergence of the IR4.0 and its consequences has reshaped a career pattern for the future labor market. Thus, investment in human resources and career pathways is a priority in leveraging this growing economic opportunity (World Bank, 2020).

Career development and planning are very much related to the current age of IR4.0. The emergence of technology and smart system bring about changes, innovations, and novelty to the world. These digital changes require teaching, learning, and training processes that match this era (Albay & Serbes, 2017). Within this context, career education is essential at the very beginning of an educational journey for individuals.

Students' general career selection process is the first step to ensure that human resources are in line with the labor market demands where the process, on average, takes place between the age of 15 and 17. The career exploration process continues through up to the age of 24 (Yusop, 2002). Career selection is a framework for which an individual will work in the future (Humayon et al., 2018). Therefore, the correct and appropriate career choice of students is highly sought after to avoid unwanted issues as it can be a predictor and determiner of income prospect levels, conditions, or career environment, which ultimately change a person's personality, attitude, and outlook on a career (Kazi & Akhlaq, 2017).

However, Quadri (2018) stated that most youths were unaware that various career opportunities existed due to the lack of information about such job opportunities. This lack of information has made the career selection process difficult because most students, according to Kunnen (2013), are more likely to choose a career based on their interests. The statement that supports this notion is that good career planning leads to achievements in life. However, the dimension of cultural values adopted is contrary to one's interest in choosing a career (Akosah-Twumasi et al., 2018).

An individual will have a better career selection if he has relevant career information and guidance (Nyamwange, 2016). Nyamwange also stated that most students with little knowledge of various fields made their choices confined to their perceptions of ideal jobs and subjects

studied in the lower secondary school. Thus, it is essential to investigate the mediating role of career exploration in determining the model of career choices based on social support and career self-efficacy predictors (Ooi et al., 2018).

Importance of Career Education for Pre-University Students

Technical and Vocational Education Training (TVET) is an educational and training process that involves technology and science, mastery of hands-on skills and attitudes, as well as knowledge and understanding related to employment in various sectors and daily life (United Nations Educational, Scientific and Cultural Organization, 2002). TVET produces skilled and semi-skilled labour to meet the labour market needs. TVET is an essential branch of general education in developing human capital to nurture Malaysia into a high-income and developed country. TVET is overgrowing in Malaysia and has become Malaysia's education system's backbone towards a developed nation (Ibrahim et al., 2015; Z. Omar et al., 2011).

TVET is one of the pathways of career education because it aims to produce individuals with high skills and understanding in a particular field of work (Atchoarena & Delluc, 2002). The goal of TVET is to match the career education objectives defined by Guichard (2001). TVET plays a pivotal role in developing the country's human resources by producing skilled labor, promoting industrial productivity, and improving individuals' quality of life (Arshad et al.,

2018). It also has direct involvement with industries that are ready to accept TVET graduates for employment. A review of the School to Work Transition by Khazanah Research Institute (2018) stated that most youths acknowledged TVET as one of the best qualifying employment platforms. Abiddin et al. (2009) similarly reported on the incredible possibilities of TVET graduates pursuing higher education and equipping themselves with the skills needed before entering the more challenging world of work.

Besides, to produce a skilled workforce in a particular field, career education also helps students equipping themselves with marketability and soft skills. According to Bakar (2011), TVET helps students acquire the skills, knowledge, and attitudes needed in professional development in the working world and the need for good citizenship as well as lifelong learning. However, Arshad et al. (2018), as well as Puad and Desa (2020), found the limitation among TVET students on their employability skills, such as communication, problem-solving, and other related skills.

As described by Guichard (2001), career education is a comprehensive effort in the education system and community to help individuals recognize a work-oriented society's values and incorporate them into their lives. Guichard explained the different objectives of career education and career counseling. According to him, career counseling aims to enable an individual to deal with issues related to themselves. The service helps them build on their

aspirations, find ways to lead to solutions, and pursue whatever careers they deem fit. In contrast, career education aims to enable an individual to develop a complete framework for transitioning from school to career and personal change transitions.

For students in secondary and tertiary education, exposure to career education is crucial for them to be engaged in and motivated about their careers. They may realize their potentials, skills, and capabilities in certain areas and tasks at this age. They also have a clear understanding of themselves and make decisions on their subject choices and career pathways. They can think about how they might live and work when they leave school. Thus, high-quality career education and guidance are essential parts of schooling in preparing students for their future. The decisions that they make at school have a significant impact on their future lives. Their choices affect their further education, training, employment, social experiences, finances, and health outcomes (Career Industry Council of Australia, 2020; Kamaliah et al., 2018). Supporting teenagers in deciding on their subjects and pathways can assist them to have a more optimistic outlook on their lives. Simultaneously, they will gain a sense of purpose and a greater level of contribution to their families and societies to make them better citizens of the country.

Furthermore, there are economic and social benefits whenever students are assisted in making guided transitions from secondary school to further education, training, or employment. Students will

be more focused to their jobs, gained higher wages, and better prepared for future challenges (Hooley & Dodd, 2015). Moreover, successful transitions support individuals to enhance their capacities in ways that contribute to enhanced jobs, skills and growth. Career education and counseling play an essential role in a curriculum that promotes students' interests, strengths, aspirations, and achievements (Cho, 2017). Moreover, secondary and higher education curriculum needs to be upgraded and aligned with current industry trends, thus exposing students to their future careers. With the right and well-informed knowledge and career education, students can prepare and decide about their subject choices and career pathways (Khalid, 2016).

Besides, the right career education setting in students' lives leads to greater heights in happiness and success. Students will enjoy their future careers because they fit and match their interests. They will feel happy in whatever they do and will also be satisfied with their workplace contribution. Careers help them enhance their existing skills and gain a new set of skills, which will contribute to their future credibility profile. According to Indianti and Aninditha (2019), the best-match job with one's interest will satisfy and fulfill the individual's work satisfaction.

Factors and Influence of Career Choice

Social Cognitive Career Theory (SCCT), introduced by Albert Bandura in 1986, was adopted as the theoretical framework for this study. This theory was subsequently refined

and developed by Lent et al. (1994). SCCT essentially emphasizes the development and explanation of career-related interests, academic, career choices, and education and career achievements (Figure 1). Bandura (1989) stated that SCCT was the interaction between career choice and career self-efficacy, outcome expectation, goals determination, choice decision, outcomes, and other factors, such as academic achievement and socioeconomic.

Career choice is a complicated process and has a lasting impact on an individual's life. Making a career choice is challenging and involves many interrelated factors (Kazi & Akhlaq, 2017). According to Ahmed et al. (2017), a person's career choices are influenced by two factors; social and psychological factors. Social factors can involve an individual's relationship, such as parents, family, history, and environmental characteristics. The latter are individual perceptions, beliefs, ideas, and personalities. Due to the complexity of the career choice process, an individual tends to make career decisions based on several factors dominating their lives, such as socioeconomic, educational, cultural background, and family influence (Mohd Rasdi & Ahrari, 2020). Students are also influenced by media, peers, health barriers, income position and financial problems, income prospects, job opportunities, social acceptance of a profession, recognition, and job satisfaction (Kazi & Akhlaq, 2017).

According to Borg et al. (2014) and Fizer (2013), many factors affect career choices among university students. From

multiple career development theories, influencing career choice aspects include childhood fantasy, culture, personality, previous experience, gender, interest, life role, skill, ability, talent, social and economic condition. For childhood fantasies, memories, and questions from one's childhood may help shape how one thinks about careers and future life. Based on the career development theories, these fantasies about careers are relevant and occur until the age of 14 (Rashid et al., 2009). For culture, the influence of racial and ethnic background may impact individuals' career choices.

Similarly, community, family, and residential areas may also shape individuals' values and expectations in deciding a job for their future (M. K., Omar et al., 2018). Moreover, personality is one of the most critical factors in influencing career choices. By utilizing personality, individuals may benefit in selecting a career field that is a good fit for personality make-up, increasing awareness of learning style of career education, managing job tasks in the workplace, and providing assistance in job search, in terms of marketing and evaluating opportunities.

For previous experience, having positive experiences and role models working in specific careers may influence career choices. As human beings, people are likely to consider continuing a particular task if we have a positive experience doing it. For gender, both men and women are victims of career-related stereotypes today. Research on gender and career choice is ongoing as

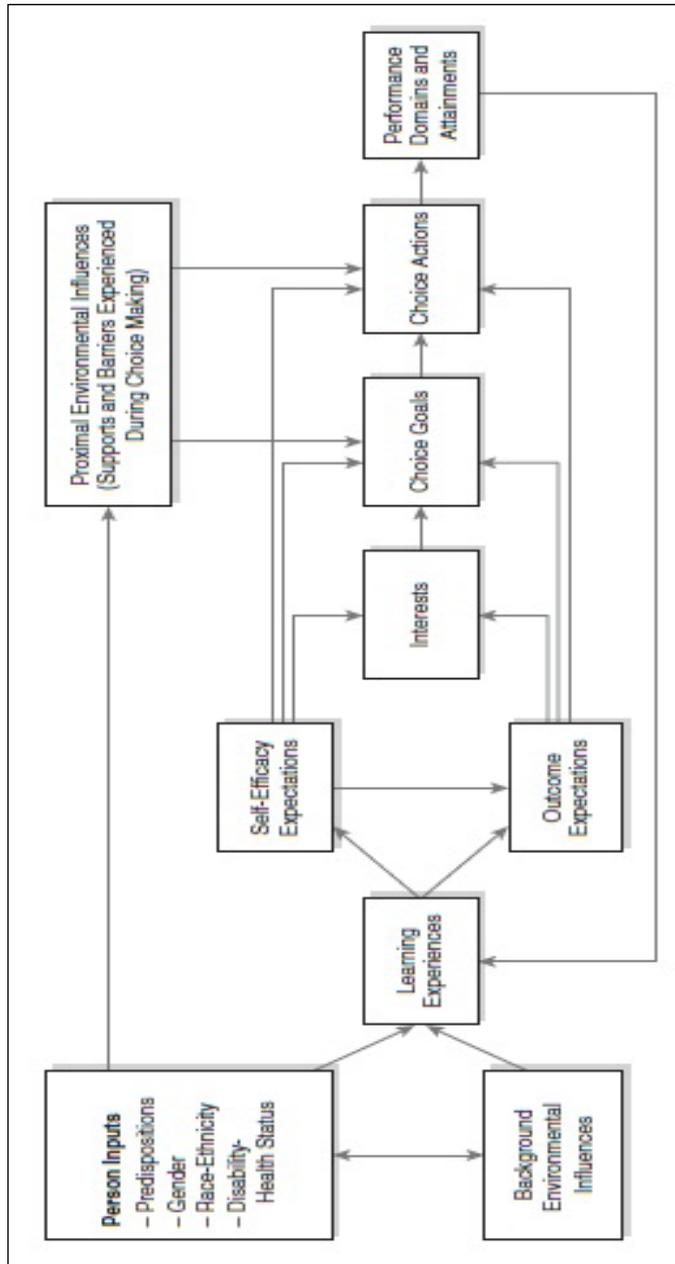


Figure 1. Social cognitive career theory (Adapted from: Lent et al. (1994))

men and women's roles in the workforce evolve (Puad & Desa, 2020). For interest, there are many valid instruments available to connect personality types and career fields. The instrument matches personality characteristics and personal preferences to job characteristics.

As for life roles, an individual always plays multiple roles in his or her life. The responsibility in holding multiple positions may influence how individuals look at careers in general. For skills, abilities, and talents, these elements are central to the earliest career development fields. These factors help researchers create occupation profiles for specific jobs, identify individual differences, and match individuals to occupations. For social and economic conditions, events that take place in our lives may affect career choices available. This factor also includes changes in the economy, and the job market may also affect how our careers develop (Borg, 1996).

According to SCCT, career self-efficacy interacts with career choices by developing an interest that drives a person to set career goals, which then triggers the chosen career's action choices. Career self-efficacy is essential for career development, internally or externally (Lent et al., 1994). According to Betz et al. (1996), career self-efficacy is the expectation of self-efficacy related to the behaviors required in career choices and adjustment.

In the SCCT, social influence is a primary driving force for an individual's sense of self-efficacy and career choice, even for those who have already developed

this aspect of cognition. Based on the theory of SCCT, Lent et al. (2006) posited that social support might have a more significant influence on career choices than any other factors, such as career self-efficacy. Scholars share this notion (e.g., Wright et al., 2014). This area who evaluated social supports impacts career self-efficacy by integrating the attachment theory to students' career aspirations. Social support also involves both the perception of a sufficient number of supportive persons and the level of satisfaction with individuals.

Meanwhile, career exploration improves students' knowledge of their career options, encouraging them to develop and work toward their goals when they are also beginning to venture beyond the orbit of their parents. The process of career exploration involves many branches, such as learning more about ourselves, researching available career options, trying out new experiences, and creating a strategic plan to reach individual professional goals. Xu et al. (2014) postulated that career exploration could predict career choice. The study of Gushue et al. (2006) found that career exploration involvement could determine career decisions and self-efficacy. Career exploration plays a role in making career decisions to gather information and improve self-understanding and career.

Career exploration also has its contributors, such as socioeconomic and personality factors. These are some of the factors that affect students' career exploration (Cho, 2017; Khalid, 2016). The influence of a reputable career in the

job market has placed significantly greater importance on financial, job-related, and perceived benefit-cost ratio factors for students. They are attracted to the offers and benefits from the position and influenced their career exploration and career aspiration. Moreover, personality factors, such as ambivalence, are significant in a career selection and are potential elements in directing individuals' career exploration. Youths with a strong personality are more likely to do career exploration, enabling them to make a decision early and are driven by their abilities to influence.

The concept of career counseling and career exploration is crucial in preparing youth for the nation. Students' and youths' engagement in career exploration will help them gather information about themselves and the environment to nurture progress and career development. Career exploration may also be a factor to trigger curiosity and a natural desire to explore among students. It is crucial to know about different careers from the early stage of their study or even better in the early years of schooling (Cho,

2017). Pre-university students should make decisions critically regarding their future careers and strategies to achieve their goals.

Based on the SCCT, a research framework for this study was developed, as shown in Figure 2. The framework describes the influence of the independent variables on the mediator and dependent variables. Career self-efficacy and social support were the independent variables in this study, while career exploration was a mediator. The dependent variable in this study was the career choice.

A mediator is a process where one variable is the cause of another variable (MacKinnon et al., 2012). Mediators usually act as the third variables required to make certain independent variables useful for dependent variables (criterion). This relationship is called an indirect relationship. According to MacKinnon et al. (2011), the mediator variables minimize independent variables' effect on the dependent variables. The mediators affect the direction and strength of the relationship between the two variables (MacKinnon et al., 2011).

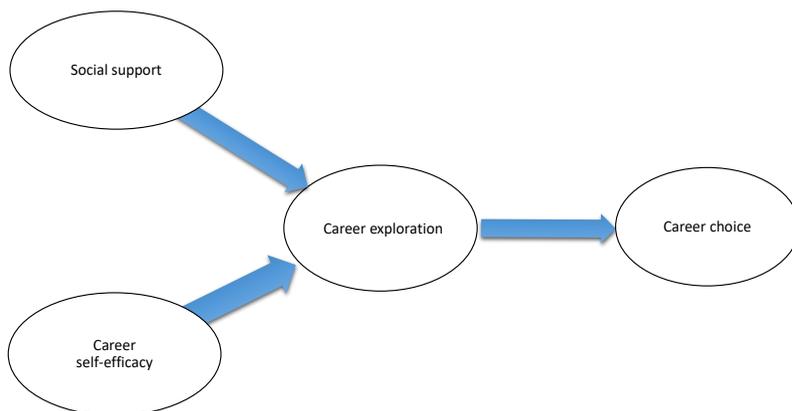


Figure 2. Research framework

Many studies run mediation-based research across various fields, including psychology, medicine, and business. Mediation-based studies are evolving as these methods focus on what is often the central scientific hypothesis. Studies using mediators in the context of careers have also been conducted extensively, such as the study of Ismail et al. (2013).

Career exploration is a mediator variable that inter-relates social support, career self-efficacy, and career choice. In a study to predict intrinsic career success, D. J., Brown et al. (2006) conclude that goals-based activities serve as mediator variables. Previous studies also show that career exploration has a significant positive relationship with career self-efficacy, social support, and career choice (Chan, 2020). High levels of self-efficacy act as a motivation for an individual to do more job searching (career exploration) and, in return, will lead to positive results (Van Ryn & Vinokur, 1992). Manasseh (2015) found that self-efficacy had no direct effect on performance and contended that other factors were involved in this relationship. According to C., Brown et al. (1999), the act of passive involvement in job-related activities will lead to difficulty in the career decision-making process, which in return, will hinder positive decision-making and experience a developmental outcome.

Moreover, Aftab and Malik (2017) studied the significant career dimensions exploration, namely the process of exploration, exploratory confidence, and exploratory reactions as mediators in the

relationship between career perceptions and career decisions. The results showed that exploratory confidence dimensions partially mediated the relationship between career decisions and career perceptions. They also found that exploratory confidence was also a partial mediator in the relationship between career decision and career certainty. Park et al. (2017) examined the relationship between the nature of anxiety and career anxiety. It was found that the relationship between the two was negative without the presence of career exploration. However, the relationship turned positive with the presence of career exploration. These findings suggest that career exploration serves as a full mediator for the relationship between anxiety and career anxiety. Talib et al. (2017) utilized a quasi-experimental research method to determine the effects of career exploration modules on career planning, career self-efficacy, and career maturity among community college students. The study results disclosed that the ability to plan a career improved after going through the career exploration module. This module has also increased the self-efficacy of students in their careers.

Foundation Program in Universiti Putra Malaysia

The Foundation of Agricultural Science program in Universiti Putra Malaysia aims to increase students' involvement and enrollment in agriculture-related bachelor degree programs. This one-year program comprises two semesters. Each semester consists of 18 weeks of learning,

with six subjects per semester. It exposes pre-university students to meaningful experience in the agricultural field as a niche area and other subjects required for most bachelor degree programs at Universiti Putra Malaysia. The subjects include Mathematics, Biology, Chemistry, Physics, Agriculture, and the English language. Figure 3 shows the curriculum and career paths of students in the foundation program.

During the foundation program, students will develop their cognition in careers for their life. The extent to which each of the foundation programs influences career choice decisions varies from one population to another depending on the situation and environment. Usually, before making career choices, students are often provided with a list of careers. They make choices based on their previous experiences and knowledge. However, most students lack adequate information regarding various available

careers in the job market. Hence, their choices are surrounded by their perception of the ideal job and the subjects they study in secondary school. Perhaps, the only support students get in the school system is from career counselors expected to assist students with their career choice (Pei-Boon et al., 2020).

Therefore, this study aimed to investigate the mediating role of career exploration in determining the model of career choices based on social support and career self-efficacy predictors among pre-university students at Universiti Putra Malaysia. The study sought to answer two research questions; 1) Do career self-efficacy and social support have a significant relationship with career choice? 2) Does career exploration play a vital role in mediating the model of career choice based on social support and career self-efficacy predictors?

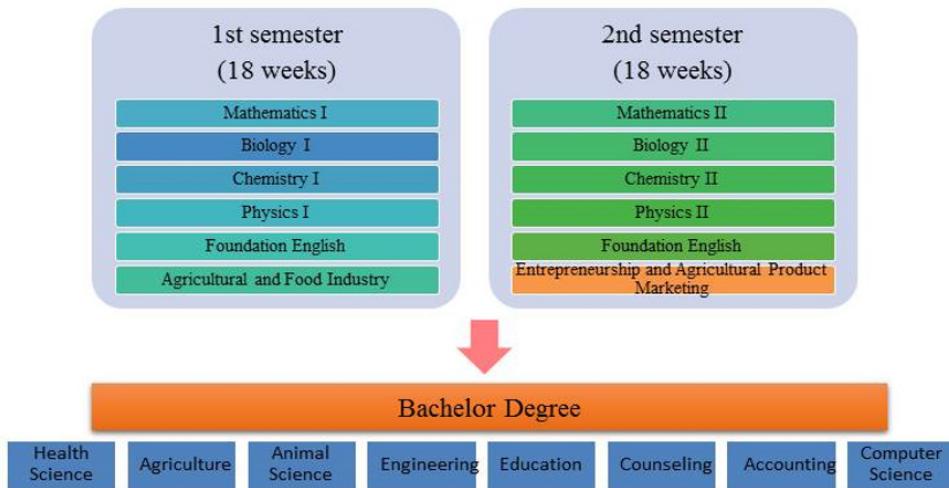


Figure 3. Curriculum and career paths of foundation of agricultural science program

METHODOLOGY

The study employed a quantitative approach and a correlational research design. The 249 respondents were selected using Cohen's calculation with a simple random sampling method from 846 students enrolled in the Foundation of the Agricultural Science program at Universiti Putra Malaysia cohort 2019/2020.

The researchers used four instruments to measure four variables; social support, career self-efficacy, career exploration, and career choice. Adapted instruments from Zimet et al. (1988) for the Multidimensional Scale of Perceived Social Support, Betz et al. (1996) for Career Decision-Making Self-Efficacy Scale-Short (CDSE-SF), Stumpf

et al. (1982) for the Career Exploration Survey (CES) and Alkhelil (2016) for Career Choices Inventory were used in the current study. The dimensions of social support, career self-efficacy, career exploration, and career choice were measured in the questionnaire. The dimensions of the variables are listed in Table 1.

The permission to use and adapt the instruments was obtained from the respective authors. Three lecturers with expertise in the Technical and Vocational Education and Training area validated the instruments before administering them. The pilot study had been conducted by involving 40 respondents from the first-year students from different group in the Foundation of the Agricultural Science program at Universiti

Table 1

The dimension of variables measured in the questionnaire

Variable	Dimension
Social Support	Perceived social support
Career Self-Efficacy	Self-evaluation
	Job information
	objective
	Future planning
	Problem-solving
Career Exploration	Systematic-intended Exploration
	Environment Exploration
	Self Exploration
	Information Satisfaction
	Focus
Career Choice	Career Exploration Outcome
	Management efficiency
	Technical efficiency
	Creativity

Putra Malaysia. The Cronbach Alpha’s value for career choice, social support, career self-efficacy, and career exploration instruments were 0.72, 0.83, 0.92, and 0.93, respectively. By referring to previous research of similar nature in the field, the Cronbach Alpha’s values for career choice, social support, career self-efficacy, and career exploration instruments are considered acceptable (Alkhelil, 2016; Betz et al., 1996; Stumpf et al., 1982; Zimet et al., 1988). The pilot study had provided evidence that the instruments are reliable to be used in the present study.

The data were collected from the selected respondents by using a questionnaire. Permission to conduct research was obtained from the Ethics Committee of Universiti Putra Malaysia. The questionnaires were distributed by hand to all respondents. The respondents were required to complete the questionnaire within the stipulated time frame and return the questionnaires upon completion. After collecting the data, the authors recorded the questionnaires’ responses using IBM SPSS Statistics software for data analysis.

RESULTS AND DISCUSSIONS

The researchers used a Pearson correlation analysis on the independent variables and

dependent variables. The correlation values between independent variables, social support, career self-efficacy, and dependent variable, career choice, are shown in Table 2. The relationship between social support and career choice ($r = .28, p < .01$) is positive but weak. This result means the social support and career choice was almost not correlated. The relationship between career self-efficacy and career choice ($r=.42, p<.01$) was positive, significant, and moderate. This result suggests that career self-efficacy and career choice are moderately correlated. This finding is in line with the study conducted by Mahadi et al. (2016) on the relationship between self-esteem and social support for career decisions. They found that self-esteem was positively associated with career decisions. Their Structural Equation Model (SEM) analysis found an increase in students’ self-esteem improves their career decision-making ability. Other studies also support the finding of this study, in which self-efficacy has a significant positive impact on job satisfaction (Yalalova & Zhang, 2017).

The findings of many studies (e.g., Chan, 2020; Humayon et al., 2018) show that both are strongly positive, and social support from families plays a significant

Table 2
The correlation between social support and career self-efficacy with career choice

Variables	r	p	Direction	Relationship
Social Support– Career Choice	0.28	0.001*	Positive	Weak
Career Self-Efficacy – Career Choice	0.42	0.001*	Positive	Moderate

*significant at alpha 0.05

role in influencing students in choosing a career. However, the findings of this study are not in alignment with the findings of other studies. Humayon et al. (2018) concluded that a healthy family influence produced the best career choice. Chan (2020) found that parenting style was positively associated with difficulty in making career choices. He emphasized that parents had a strong influence on their children’s career decisions. Hsiao and Nova (2016) also found that family factors did not contribute to the career selection process among high school students attending the USP 6th Career Carnival.

Table 3 shows that the direct model that links social support and career choice is significant ($\beta = 0.282, p < 0.05$). Based on the criteria outlined by Shrout and Bolger (2002) as well as Samah (2016), it is reasonable to conclude that the dimension of career exploration is a partial mediator in the relationship between social support and career choice. The dimension of systematic-intended exploration (SIE) is the most influential mediating dimensions in this relationship at $\beta = 0.197, p < .005$. For the other dimensions, β values ranges from $\beta = 0.253, p < .005$ to $\beta = 0.288, p < .05$.

Table 3
Mediator effects between social support and career choice

Factors / Models / Paths of Hypothesis	β	p-value
Direct Model Social Support → Career Choice	0.282	0.001*
Mediator Model Social Support → Career Choice	0.197	0.001*
Systematic-intended Exploration	Social Support → Systematic-Intended Exploration	0.164 0.007*
	Systematic-Intended Exploration → Career Choice	0.238 0.000*
Mediator Model Environment Exploration	Social Support → Career Choices	0.253 0.000*
	Social Support → Environment Exploration	0.201 0.001*
	Environment Exploration → Career Choice	0.299 0.000*
Mediator Model Self-Exploration	Social Support → Career Choices	0.258 0.000*
	Social Support → Self-Exploration	0.150 0.014*
	Self-Exploration → Career Choice	0.295 0.000*
Mediator Model Information Satisfaction	Social Support → Career Choice	0.274 0.000*
	Social Support → Information Satisfaction	0.146 0.017*
	Information Satisfaction → Career Choice	0.309 0.000*
Mediator Model Focus	Social Support → Career Choice	0.255 0.000*
	Social Support → Focus	0.163 0.007*
	Focus → Career Choice	0.294 0.000*

Table 3 (Continued)

Factors / Models / Paths of Hypothesis β		β	p-value
Mediator Model	Social Support \rightarrow Career Choice	0.288	0.000*
Career Certainty	Social Support \rightarrow Career Certainty	0.318	0.000*
Exploration Outcome	Exploration Outcome		
	Career Certainty Exploration Outcome \rightarrow Career Choice	0.349	0.000*

*significant at alpha 0.05

The study’s overall finding shows that social support requires other factors for this variable to associate with career choice. Therefore, it can be concluded that the dimensions of systematic-intended exploration, environment exploration, self-exploration, information satisfaction, focus, and career exploration outcome are the necessary mediators between social support and career choice. The visual correlation between social support and its dimension to career choice is illustrated in Figure 4.

Table 4 shows the mediating effects of career exploration dimensions on the relationship between career self-efficacy and career choice. Based on the direct model, career self-efficacy is positively related to career choice ($\beta = 0.425, p < 0.05$). Based on the results of multiple regression tests conducted on this relationship to see the effect of mediation effect, the result shows that all career exploration dimensions have mediation effects on the relationship except systematic-intended exploration. This study found that systematic-intended exploration in the relationship had caused the relationship between systematic-intended exploration and career choice to

be insignificant. Therefore, systematic-intended exploration can be claimed to not function as a mediator in this relationship.

For the other dimensions of career exploration, environment exploration, self-exploration, information satisfaction, focus, and career certainty exploration outcome play partial mediators. A career exploration dimension in the relationship between career self-efficacy and career choice does not diminish the relationship’s strength but somewhat weakens the relationship between them. Based on Table 4, the dimensions of environment exploration have the most substantial mediation effect ($\beta = 0.125, p < 0.048$) in comparison to the others. The mediator of environment exploration almost eliminates the relationship between career self-efficacy and career choice (Figure 5). Other dimensions also influence the relationship where the coefficient of correlation between career self-efficacy and career choice ranged from $\beta = 0.146, p < 0.005$ to $\beta = 0.180, p < 0.005$.

This finding indicates that the dimension of career exploration plays a role as a mediator in the relationship between career self-efficacy and career choice. Therefore,

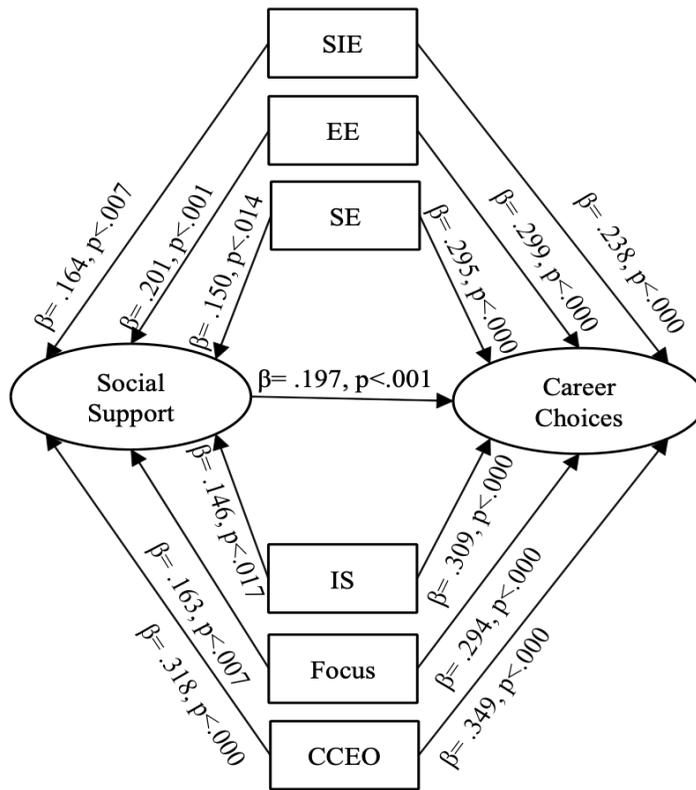


Figure 4. Values of the mediator, β , (career exploration dimension) in the relationship between social support and career choices

Table 4
Mediator effects between career self-efficacy and career choice

Factors / Models / Paths of Hypothesis	β	p
Direct Model Career Self-Efficacy → Career Choice	0.425	0.000*
Mediator Model Career Self-efficacy → Career Choice	0.087	0.147
Systematic-intended Exploration Career Self-efficacy → Systematic-Intended Exploration	0.385	0.000*
Systematic-Intended Exploration Career Choice	0.238	0.000*
Mediator Model Environment Exploration Career Self-efficacy → Career Choice	0.125	0.048*
Career Self-efficacy → Environment Exploration	0.478	0.000*
Environment Exploration → Career Choice	0.299	0.000*

Table 4 (Continued)

Factors / Models / Paths of Hypothesis	β	p	
Mediator Model Self-Exploration	Career Self-efficacy \rightarrow Career Choice	0.157	0.009*
	Career Self-efficacy \rightarrow Self Exploration	0.378	0.000*
	Self Exploration \rightarrow Career Choice	0.295	0.000*
Mediator Model Information Satisfaction	Career Self-efficacy \rightarrow Career Choice	0.146	0.018*
	Career Self-efficacy \rightarrow Information Satisfaction	0.455	0.000*
	Information Satisfaction \rightarrow Career Choice	0.309	0.000*
Mediator Model Focus	Career Self-efficacy \rightarrow Career Choice	0.151	0.012*
	Career Self-efficacy \rightarrow Focus	0.393	0.000*
	Focus \rightarrow Career Choice	0.294	0.000*
Mediator Model Career Certainty Exploration Outcome	Career Self-efficacy \rightarrow Career Choice	0.180	0.005*
	Career Self-efficacy \rightarrow Career Certainty Exploration Outcome	0.506	0.000*
	Career Certainty Exploration Outcome \rightarrow Career Choice	0.349	0.000*

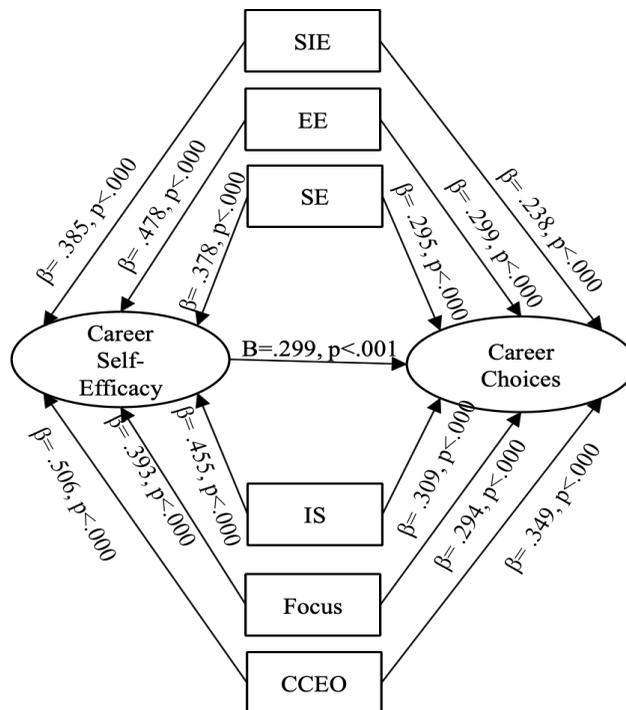


Figure 5. Values of the mediator, β , (dimensions of Career Exploration) in the relationship between career self-efficacy and career choice

career self-efficacy requires the factors of career exploration, environment exploration, self-exploration, information satisfaction, focus, and career certainty exploration outcome to affect career choices (Figure 6). The absence of these factors further weakens the relationship between the two ($\beta = 0.425$, $p < 0.005$).

Based on the data analysis results, all dimensions of career exploration, systematic-intended exploration, environment exploration, self-exploration, information satisfaction, focus, and career certainty exploration outcome have a mediating effect on the relationship between social support and career choice. For the relationship between career self-efficacy and career choice, all dimensions are partial mediators in this relationship except for SIE that does not affect the relationship between the two variables. The results indicate that career exploration is a partial mediator for social support and career

choice. This relationship requires other factors to establish a relationship between them. Therefore, one of the other factors is career exploration.

These findings are supported by several studies, such as Ismail et al. (2013) and Park et al. (2017). Ismail et al. (2013) studied proactive behavior as a mediating variable in the relationship between career management and career satisfaction. Their findings indicated that aggressive action acted as an essential mediator variable for career management and career satisfaction. Meanwhile, a study conducted by Park et al. (2017) explored career exploration as a mediator in the relationship between anxiety and career indecision. They found that career exploration played a mediator role in this relationship where lack of career exploration behaviors due to a low level of anxiety caused difficulties in career decision making. In contrast, high anxiety causes an individual to have career

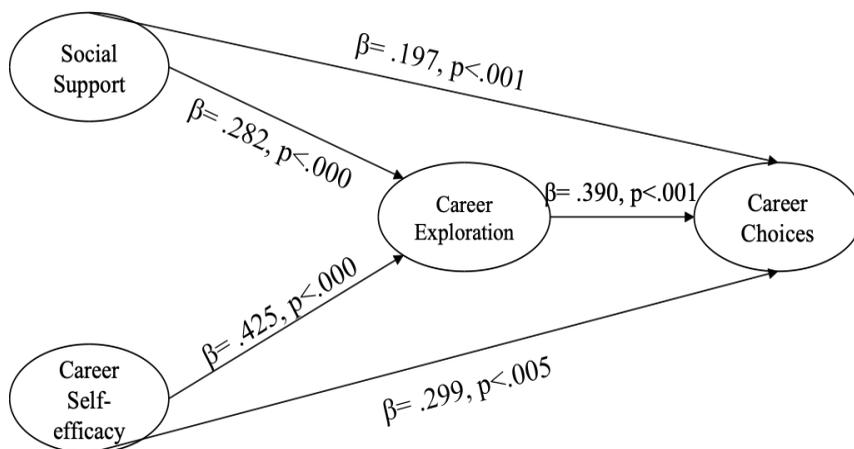


Figure 6. The value of β for mediator model of career exploration in the relationship between social support and career self-efficacy

exploration behaviors, thus reducing career indecisiveness.

Hermawan and Farozin (2018) stated that the level of individual career exploration had been the framework of how an individual could determine career or vocational choices. Based on the study conducted by Xu et al. (2014), they conclude from their findings that career exploration is a predictor of career. Not only that, but career exploration also has a direct relationship with social support and career self-efficacy. According to the study by Turan et al. (2014), the results of multiple correlations and regression tests confirm that social support has a significant relationship with career exploration. Social support is essential to understand career exploration better. Based on the study conducted by Guan et al. (2015), they found that parental support affected career exploration. Thus, they considered that it was essential to have parental support to ensure a continuous career exploration process. A study conducted by Tadele and Terefe (2016) found that career self-efficacy influenced career exploration. Study by Van Ryn and Vinokur (1992) also found that career self-efficacy was significantly associated with career exploration. These studies are convincing enough to show that career exploration plays a role as a mediator in the relationships between other factors and career choices.

IMPLICATIONS

This study's findings are based on the data collected in 2019, long before the

Covid-19 pandemic started and spread worldwide. Therefore, the study on the role of career exploration as a partial moderator in influencing career choice among pre-university students did not take the Covid-19 pandemic situation into account. The findings could be different or could have been the same if conducted nowadays since it depends on the situation of Covid-19 at the location of the study. Should there be any unexpected finding, such a finding should be assumed due to the unstable economic crisis and the affected world of work today. Other considerations, risks, and factors can also influence the elements for career exploration and career choice today.

CONCLUSIONS

Career exploration plays a mediating role in the relationship between social support, career self-efficacy, and career choice. This finding indicates that the relationship between social support and career self-efficacy and career choice requires assistance or other influences to enhance the relationship's strength. Career exploration must be presented in the relationship to ensure social support and career self-efficacy on career choice. Teachers and administrators are recommended to play an active role in initiating career exploration activities for students during their learning process. Career exhibition, career talk, job-shadowing, visitation, and other career-related activities are beneficial to spark interest among pre-university students. Based on the overall findings, this study has the advantage of contributing the

research findings to future studies on career exploration as an intermediary variable and career-related fields. This study provides a basis and serves as a reference to academicians and instructors designing the curriculum and instructions for pre-university students in choosing a career.

Living in the innovative, digital, and global world today, social support and career self-efficacy are essential factors in deciding students' career paths. These two factors have influenced students' career choice directly and indirectly. Simultaneously, the career exploration of students during their study years also impacts students' career choices. The career exploration factor contributes to the students' choice while making the first step to ensuring that their interests align with the job demands. Even small-scale relevant activities and inspired exposures to the world of work can guide students to choose their careers.

Another limitation, the current study only focuses on career exploration dimensions as a mediator variable. Therefore, future studies should examine the dimensions of independent variables (social support and career self-efficacy) in-depth. A few career self-efficacy and social support dimensions could be looked into as potential mediators by future researchers. Other variables listed in the theoretical framework could also be the best possible mediators in choosing a career among pre-university students.

ACKNOWLEDGEMENT

This study was self-funded by the authors. Thanks to Dr. Mohd Hazwan Mohd Puad,

Noor Ashira Yusran, and Dr. Muhd Khaizer Omar for their contribution to this study. Also, a special thank you to the Centre of Foundation Studies for Agricultural Science, Universiti Putra Malaysia, for granting permission to the researchers to conduct the study.

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Embedding Entrepreneurial Knowledge in Vocational College Curriculum: A Case Study of the Competency of TVET Instructors

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ABSTRACT

Entrepreneurial knowledge is important and it has been adopted in numerous curriculum and subject matters. Even though the embedding of the entrepreneurship syllabus in the curriculum might be able to enhance the knowledge of the students and subsequently trigger their interests in business, very often students would forget about it once they graduated from the program and fail to put their entrepreneurial knowledge to use. One of the common postulations was the lack of effective teaching by the teachers. Based on this assumption, a case study was conducted to explore the competency requirement of teachers related to the teaching of entrepreneurial-based knowledge and to investigate the process of teaching and learning entrepreneurship curriculum in the classroom settings. A semi-structured interview was conducted to the 7 informants. The informants were chosen using purposive sampling from the selected vocational colleges (3 instructors, 3 students, and 1 director). In-depth and constant comparative analysis was utilized to validate the

themes. We triangulated the narratives along with five other sources of data, including note-taking via observations, document analysis of lesson plan, curriculum content, policy, and guidelines. NVIVO software was used to organize the narratives and guide the thematic analysis findings. The findings demonstrated that entrepreneurial competency is important for the engineering TVET instructors to pass on the necessary entrepreneurial skills to students. In view of the latest trends in business and

ARTICLE INFO

Article history:

Received: 13 November 2020

Accepted: 11 March 2021

Published: 14 April 2021

DOI: <https://doi.org/10.47836/pjssh.29.S1.06>

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marketing strategies and wide application of gig economy, the range of competency in entrepreneurial skills identified in shaping the future orientation of entrepreneurial fields.

Keywords: Entrepreneurial competency, instructor, technical and vocational education and training (TVET), vocational college

INTRODUCTION

The constantly evolving economic trends have ushered in a new era of product purchasing and consumption for the consumers. Changes in the trends and methods of doing business especially during COVID-19 have called for a renewed and improved understanding of the consumer's behavior (Eriksson & Stenius, 2020). Following this, the various strategies to fulfill this requirement were defined as the gig economy by the stakeholders. With the growth of the gig economy and its influence on mainstream businesses, entrepreneurs must strategize new and flexible ways of doing business. It is vital to empower the younger generation for them to seize the opportunities and to be independent entrepreneurs rather than job seekers (Omar et al., 2011). By being an entrepreneur, they can also create jobs for others to boost the economy and to safeguard the well-being of others. For example, the United States has witnessed a significant transformation in which people are no longer tied to specific jobs with certain companies but rather they have moved on to a more flexible and independent work arrangement that allows

a higher degree of freedom and pleasure (Friedman, 2014).

In response to this new landscape in the digital economy environment, creativity in creating businesses and job opportunities is vital (Barile, 2017). The increasing trend of digital connectivity through marketing platforms continues to pique the interests of people on various products. Furthermore, digital technology mediates the networking between the people and entrepreneurs, thus creating different elements in marketing (Thompson, 2019). In view of the rapid development of the digital platform especially in entrepreneurial fields, a structured curriculum should be incorporated. It is also equally important to have teachers who are experienced in teaching those elements to ensure the best outcomes.

From the perspective of the Technical and Vocational Educational and Training (TVET) field, the entrepreneurial curriculum has long been imposed in its teaching and learning (Ibrahim et al., 2015). The process of teaching entrepreneurship knowledge is included in specific courses or embedded through class activities and programs. Therefore, TVET instructors play a vital role in planning and implementing these entrepreneurship elements in their teaching and learning procedures (Dahalan et al., 2018). A TVET instructor is a trained-teacher with the industrial background as a result of their previous working experience in related fields (Affandi et al., 2020). The aim of TVET is to produce future graduates who are capable of joining the

workforce immediately upon completion of the program (Omar et al., 2011). To accomplish this objective, TVET Malaysia strives to achieve the status as an educational hub of excellence in TVET teaching by ensuring that highly competent, confident, and credible TVET teachers (Alazzam et al., 2012; Kamaliah et al., 2018; Ramlan et al., 2017) are available to empower the students and to produce quality graduates from the program.

The Malaysian Ministry of Education (2013) aims to produce competent vocational college graduates to meet the needs of skilled and semi-skilled workers in the industrial sectors. The target set by MOE was to have at least 70% of the graduates joining the workforce of the relevant training field, another 20% pursuing higher degree education in related fields, and lastly, 10% of them taking up entrepreneurship (TVET Division, 2012). In order to achieve this, vocational college teachers must be the ones with the highest quality, competency, responsibility, and professionalism in performing their duties. Idris and Hamzah (2013) stated that the quality of the teaching could be only safeguarded by excellent levels of leadership competence, intrapersonal, and interpersonal skill. Furthermore, another study reported that TVET instructors must gain the necessary experience before they could develop the knowledge needed to deliver better teaching and learning experiences to the students (Chua & Jamil, 2012a). This finding was further strengthened by Said et al. (2016) who pointed out that the quality of teaching

depended on the competency of the subject matter, the teaching method, and good management in the preparation of teaching materials.

However, there are certain issues related to the quality of TVET teachers (Grosch, 2017; Omar et al., 2020). These issues have been addressed in conferences and seminars and the discussion pointed towards a lack of quality among TVET teachers. This was also echoed in the works of Iwu et al. (2019) and González Moreno et al. (2019) who studied on different levels of conventional teachers, and Mohd Jamil (2007) as well as Abd. Aziz (2007) in TVET stream found that the competency component of entrepreneurship teaching was still lacking. Such incompetence projects a negative image on the TVET students and institutions in Malaysia (Affandi et al., 2020; Chua & Jamil, 2012b). In a recent study, Omar et al. (2020) reported similar findings whereby TVET instructors in the engineering field had moderate levels of knowledge, attitude, and practice in the field of entrepreneurship. In view of these issues, Abdullah et al. (2019) highlighted the need to improve the level of entrepreneurial teaching in engineering courses at vocational colleges so that the aspirations of the 21st century education can be successfully achieved.

Literature Review

In the literature, the researchers have outlined a clear definition of entrepreneurial competence to avoid confusion with other elements of competency. Entrepreneurial competency can be defined

as the knowledge, skills, and personal characteristics possessed by individuals to help them carry out their responsibilities in the field of entrepreneurship or business (Abd. Aziz, 2007). In addition, Al Amin, (2013) emphasized the significance of the entrepreneurial component and how it should be well-taught by instructors to create the necessary awareness so that the entrepreneurial subject matter could be mastered by the students before entering the workforce.

Model Human Resource Development (HRD) Practice

The Human Resource Development (HRD) Model defines that a successful organization must have four key competencies, namely technical skills, interpersonal skills, intellectual abilities, and business skills. Based on this notion, all the aforementioned

competency traits are very much needed in an education institution for the teachers and students to polish their technical abilities and expertise. It also highlights the importance of entrepreneurship or business skills for TVET engineering lecturers in educating and guiding vocational college students. Figure 1 shows the HRD Model by Mc Lagan (1989).

As this study was conducted for engineering TVET instructors at Vocational college, the theory was particularly relevant to the context of this study. All the components of the HRD Model were appropriate and consistent with this study. Specifically, the TVET instructors need to possess technical, interpersonal, intellectual, and entrepreneurial skills to systematically and professionally produce competent graduates who can meet the market demands in the workforce. Mohd Jamil (2016) also

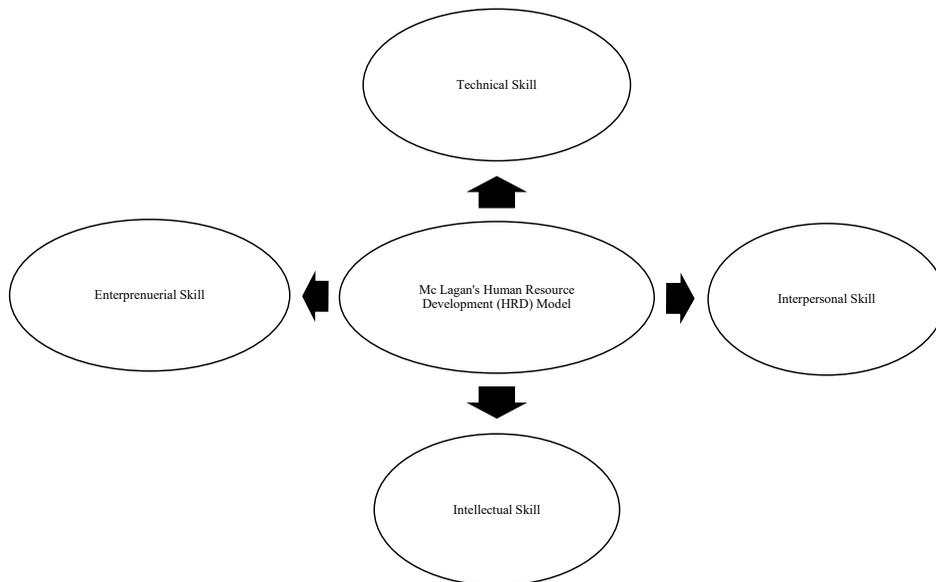


Figure 1. Mc Lagan's Human Resource Development (HRD) model (1989)

used the HRD Practice model in his study and emphasized that TVET instructors needed to have all four components of competency in this model. This was also in line with the study by Khalil (2017) that revolved around the development model of teacher professionalism in Malaysia.

Malaysian Standard Teacher Model (MSTM) (2009)

The MSTM is a reference model used by all teachers in Malaysia that emphasizes the need for instilling values and professionalism in the teaching of skills and knowledge. TVET teachers are expected to provide the best education to produce highly qualified graduates in the respective fields. Therefore,

it is imperative for teachers to emphasize good practices, values, and attitudes as well as to impart knowledge on all the relevant fields. The MSTM model should be adopted to produce highly competent, good quality, and excellent teachers. Figure 2 shows the MSTM as depicted in the Ministry of Education (2009).

In the context of this study, the MSTM Model is a suitable reference as it forms the basis for all instructors, including TVET instructors in the engineering stream of vocational colleges (Sharif et al., 2017). Furthermore, it is a comprehensive teaching model that encompasses professional values and practices, instructional and pedagogical skills, as well as the knowledge required of

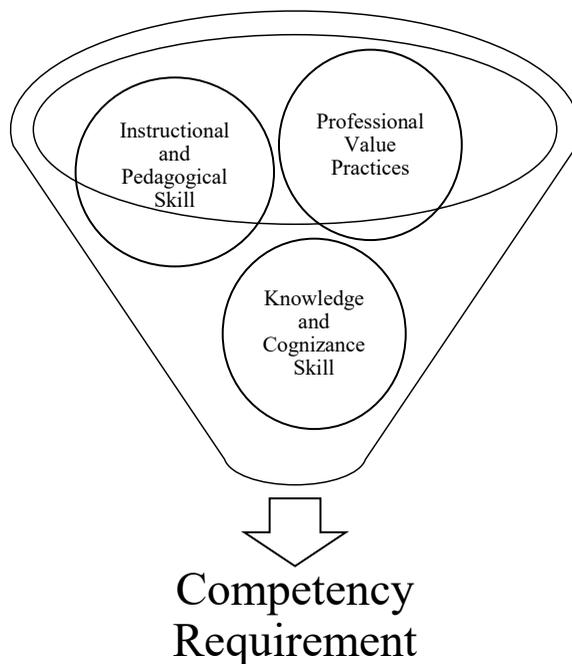


Figure 2. Model standard guru Malaysia (MSTM)

Source: Ministry of Education (2009)

teachers. As shown by Tamuri et al. (2012), the model is a basic guide for teacher preparation. In addition, Idris and Hamzah (2013) reported that the model was useful as a reference guide in producing quality instructors. By following this model, TVET instructors will be more competent in terms of knowledge and understanding, more skillful in the teaching and learning process, as well as more focused on the vital professional values required to produce a generation of students who are motivated and competent in entrepreneurship (Salleh & Sulaiman, 2020).

The Importance of Entrepreneurial Competency

In a study conducted by Abd. Aziz (2007) and Mohd Jamil (2007), TVET instructors at the polytechnic colleges and public institutions of higher learning in Malaysia listed entrepreneurship as an important component in the teaching domain. Subsequently, Mohd Jamil et al. (2015) also emphasized that the entrepreneurial component was very important to be instilled among engineering students in the TVET institutions in Malaysia. The motivation from the instructors plays an important role in the process of producing students who are passionate about entrepreneurship (Mohd Mustafa et al., 2013). The relevant field experience and the knowledge and skills in entrepreneurship can help them to meet the requirements of the industry. To achieve that, students need to be exposed to the basics of entrepreneurship in order to motivate them to sustain their interest in entrepreneurship

and fundamental requirements of the business.

In the modern world today, there are various opportunities available especially in the field of marketing. TVET graduates should be encouraged to venture into the high potential entrepreneurial field (Nasharuddin & Harun 2010). In a recent study, Halberstadt et al. (2019) emphasized that a positive role by the instructors in this area of entrepreneurship could create creative and innovative students. They would also be highly competitive when they entered the real world upon graduation. Mohd Jamil (2016) also argued that entrepreneurship was a component of generic competence that all TVET instructors must master in order to effectively produce excellent human capital that met the current needs.

Research Objective

This study aimed to explore the elements of entrepreneurship competency among engineering TVET instructors at vocational colleges and the teaching methods used by them to impart entrepreneurship knowledge to students.

Research Questions

This study was conducted to answer the following research questions:

- i. What are the entrepreneurial competency elements required by the engineering TVET instructors in vocational colleges?
- ii. How are the entrepreneurial knowledge elements being imparted to vocational college students?

MATERIALS AND METHODS

Given that this study was related to previous studies on the building process of teachers' competence, a case study was used as the selected study approach to delineate the concerns about teacher competency and competency gap among TVET instructors that might have negatively impacted the teaching and learning process of TVET graduates. By using the case study approach, the researcher aimed to explore the interaction between informants with regard to the desired significant competency indicators among instructors, the comparison with existing competencies, and how such competencies could be instilled in the student to be mastered by them. As suggested by Yin (2014), case studies are commonly used in qualitative research to answer the questions of how and why. This was similar to Lebar (2007) who reported that the case study was qualitative research aimed at exploring, interpreting, and developing an in-depth understanding of a case. Furthermore, Yin (2014) also suggested that a qualitative case study could be applied if the researcher was studying a contemporary case or new phenomenon rather than a historical study. In this study, the researchers explored the information provided by informants when addressing in-depth questions. Following that, the findings of their research were enriched with their teaching experience on competencies. The researcher also obtained information from various other sources such as interviews, observations, audio-visual materials, documents, and reports. The use

of information was in line with Creswell's (2013) recommendation who emphasized that case studies required researchers to carry out detailed studies, collect in-depth data, and engaged multiple sources of information.

Informants and Research Context

The study location was the three vocational colleges in the Klang Valley, namely Sepang Vocational College, Kajang Vocational College, and Sungai Buloh Vocational College. They were chosen because of their close proximity to industrial areas.

Purposive sampling was applied in this study. The selection criteria for informants included being teachers and directors for more than 10 years or final year students in diploma and engineering courses with Malaysian Skills Certificate Levels 1 and 2. Furthermore, the selected informants were also committed and experienced in this field of study, so that they were able to share information voluntarily and sincerely. The informants were selected following the suggestion of the first informant who provided the names of other personnel deemed suitable for this study. Upon selection, the informants consisted of three teachers who were experienced instructors in the engineering course, three final year engineering students who were undergoing On Job Training in the industry, and one director with a background in education and experience in engineering.

In this study, a semi-structured in-depth interview was conducted with the informants using a set of structured questions as an

interview protocol. The data was further strengthened with participant observation activities and document analysis. During the interview, the researcher first established a good rapport with the informants before addressing the questions so that the data obtained would be more meaningful and of good quality.

Data Collection

In this study, semi-structured interviews were used for data collection. This method was chosen because it was more balanced and appropriate in exploring the informant's feedback in the narrative form (Seidman, 2013). Open-ended and probing questions were used to obtain further information. Face-to-face interviewing techniques were applied to collect data that could provide detailed experience and information (Rubin & Rubin, 2012). Participants with a longer period of experience and expertise in the field would be able to generate more meaningful information (Seidman, 2013).

A set of interview protocols was developed for the data collection. Interview guides were used to uncover more in-depth answers to the research questions in this study. The interview guide was essential to ensure that a smooth and well-organized interview process (Seidman, 2013). Once the data had been collected through the interview process, the researcher transcribed the audio-recorded data using computer software. Each word and specific sound from the participant's answer during the interview session was transcribed without any alteration.

Data Analysis

The interview transcripts were read repeatedly by the researchers to gain detailed insights to the answers so that they obtained a clear understanding of the meaning of each transcript. The researcher then attempted to make the meanings consistent with the actual research questions of the study. The process of encoding the data was done right after the transcription process. Encoding is a process of categorizing or giving themes to something contained in a transcript or text (Creswell & Poth 2018). The encoding process consists of three processes: open coding, vertical code (axial coding), and selective coding. Researchers used NVIVO software to perform data encoding processes to find the meaning of keywords or phrases that would help in answering research questions. According to Creswell (2013), there are eight strategies that can be used to increase the validity and reliability of a study. However, in this study, three strategies were used, namely member checking, triangulation, and peer review. The themes that emerged from this study was formed based on the aforementioned strategies to ensure trustworthiness and credibility of the qualitative findings.

RESULTS

The findings were derived from the narratives of the instructors, director, and students. It also involved the triangulation process of document analysis and note-taking during observation. It is fair to note that the observation describing the entrepreneurial aspect was rarely emphasized to the students

during the teaching and learning process. In addition, analysis of documents was also carried out by reviewing the teaching and instructional files of the teachers. The following subsections outline the study findings based on the themes derived.

Excerpts from Narratives

“When teaching, teachers will always show business knowledge to the students in the class and teachers will always tell you about the experiences of senior students from the vocational college who were successful in business.” **(Student #2-interview session #1)**

“For business students, they must have a degree of knowledge in business management or entrepreneurship. So, teachers should play a role in delivering that knowledge. Therefore, the instructors must first master all these competencies in order to teach, educate, and guide the students. The instructors must also be knowledgeable to be able to provide motivation to the students.” **(Instructor #1-interview session #1)**

Student 2 stated that the teachers possessed entrepreneurial knowledge. This was acknowledged by Instructor 1 who emphasized that teachers must be competent in the entrepreneurial aspect and to always provide motivation to students. However, the director argued that TVET instructors in vocational colleges had only basic knowledge in entrepreneurship and thus, they still needed training courses to improve their knowledge and skills in entrepreneurship.

“Instructors may need to take courses in enhancing their knowledge and skills to be in line with the latest emerging technologies in the market, including the field of entrepreneurship so that students are more exposed to and aware of the complexities of their business. This can also attract those who have aspirations of starting a business.” **(Director-interview session #1)**

Furthermore, the director explained that the instructors were only exposed to the basics of entrepreneurship and thus, the students had to work on their own to find more experiences.

“There are also vocational college graduates who became entrepreneurs and started businesses such as car service shops and air-conditioning service companies around Hulu Langat. But, there were not many of them because the other might have less exposure...Vocational college instructors may be able to provide the basic exposure to the student, but eventually, it still depends on the student’s own ability and courage.” **(Director-interview session #1)**

This was supported by the statement of Instructor 2 who claimed that he had very limited basic knowledge in entrepreneurship. Furthermore, he went on to explain that not many students were interested in taking up the risk of doing business. However, he would try to be as supportive as he could if the student was really interested.

“Not many students are truly interested in taking the risk of a business. However, some students who came from a background of family business have some experience

in this field. Therefore, they would be more inquisitive about entrepreneurship and business. So, I will help with what I can help. If I am not sure, I'll refer them to senior students who are already running businesses.” **(Instructor #2-interview session #2)**

Similarly, Instructor 3 was also very frank in admitting that he was not well-versed and skillful with regard to business knowledge. As he only had basic knowledge, he suggested some alternatives to help the students at this vocational college.

“I'm not very smart, but I help in any little ways that I can. It doesn't matter if you want to tell a story and explain your business, as long as the basics of the business are there and they can help the students to make some money. I'm encouraged to share my knowledge too, but I think the information I have about this business is pretty limited. It is important to invite experts in the field of entrepreneurship to hold a special briefing to give exposure to all final year students.” **(Instructor #3-interview session #1)**

“In fact, entrepreneurship was only taught and emphasized during core ability (CA) teaching and we were assisted by academic teachers through their own modules. So, we just emphasize soft skills in the workshops and browse through apps used for security and collaboration, that's it.” **(Instructor #1-interview session #2)**

Five themes were developed based on the thematic analysis technique. The themes specifically elaborated from the narratives and meaning making process of

the respondents. The excerpt as depicted earlier was compiled prior to triangulation process that involves document analysis, member checking and peer review process to ensure the findings is credible and genuine. The themes are as stated:

Theme 1: Poor performance level of entrepreneurship competency among teachers

The theme suggested that the teacher's performance in terms of entrepreneurship competency was weak and under expectation. This was also associated with low levels of enthusiasm and motivation among teachers. The feeling of inferiority might also lead to excessive stress and thus cast a negative impact on the teachers. Their day-to-day tasks of delivering the teaching and learning process in the workshop as well as their responsibilities as part of the administration would be affected. As a result, the TVET division in the vocational colleges might suffer from a lack of qualified instructors. This could further complicate the aim of the TVET division to have 20% of their graduates pursuing entrepreneurship. Therefore, it is vital for all stakeholders to seek solutions to enhance teacher competencies in entrepreneurship. Modifications in teaching methods and techniques such as the alternatives suggested in this study can help to avoid the negative implications that may arise if no efforts are taken to improve the professional level of entrepreneurship among TVET engineering faculty instructors in vocational colleges.

Theme 2: Low effectiveness of teacher quality improvement programs

Various programs had been implemented to enhance the quality of TVET instructors. Some were conducted by the TVET division and vocational college while others were in collaboration with other institutions or the industry. Collaboration programs can avoid the need to spend a relatively high cost for non-vocational college TVET trainers with no previous experience in the relevant workshops and industry. The findings from this study, however, suggested that some of these efforts still failed to meet the purpose of the programs. Therefore, further efforts must be undertaken by the involved parties to resolve this problem. They must take greater initiative to organize more programs that focus the weaker areas such as entrepreneurial competency for TVET engineering faculty.

Theme 3: Low motivation of teachers

The study also showed that some of the TVET vocational college instructors were aware of their weaknesses and shortcomings. They were concerned about not being able to meet the needs of everyone and ended up feeling alienated, unappreciated, and even overlooked by their peers. Over time, their motivation would decrease and they would lose interest to further develop their competencies. Therefore, it is important for the vocational colleges to design appropriate Career and Professional Development (CPD) programs to boost their self-esteem and motivation in the field of entrepreneurship. With the proper

support, the instructors will be able to carry on with the teaching and learning process comfortably without having to exhaust their energy and time to look for ways to complement the deficiencies in their competence-related knowledge.

Theme 4: Low levels of achievement and motivation among students

In addition, to produce knowledgeable and skillful students, vocational college instructors need to equip themselves with the necessary components of competency. As evidenced in this study, the weaknesses and shortcomings among the instructors would be a barrier for them to provide the necessary knowledge and skills about entrepreneurship. Thus, all the involved parties need to find a way to solve the problem to enable the students to achieve good and competent knowledge, skills, and attitudes in the field of entrepreneurship.

Theme 5: Failure to meet industry requirements

Vocational colleges aim to provide students with the necessary skills to enhance their employment opportunities. Therefore, graduates from vocational colleges would be expected to have bright employment opportunities if they can meet the industry requirements. However, this study highlighted several weaknesses in the competency skills, especially the entrepreneurial element. When teachers are weak in communicating entrepreneurship-related information effectively, this can cast a negative effect on vocational college

graduates. Those who are lacking of entrepreneurial knowledge and skills will be shunned by the industry. Eventually, the industry may lose confidence on vocational college graduates due to lack of their workforce competency especially on entrepreneurial knowledge and skills. Therefore, the relevant stakeholders must address the existing deficiencies and weaknesses highlighted by this study for the benefit of all the directors, instructors, and students involved in TVET.

DISCUSSION

The findings revealed a lack of information and preparation by instructors in terms of entrepreneurial skills. It is important for TVET faculty instructors at vocational colleges to be competent in entrepreneurship skills. However, in this study, even the directors and teachers themselves acknowledged that the entrepreneurship competency among the instructors themselves was of a modest level. Most of the teachers were inexperienced and had only basic knowledge and skill in entrepreneurship. Nevertheless, they were willing to help students who were interested in the field of entrepreneurship. Therefore, even though the lack of competence of the teachers is an obstacle, they can still find a solution by seeking the help of stakeholders from numerous agencies for example curriculum development unit, industrial player, and successful entrepreneur to address their students' questions.

The development of a clear theory can be traced to the HRD Model that

includes interpersonal skills, intellectual skills, entrepreneurial skills, and technical skills. The entrepreneurial elements of the competency component are also in line with the entrepreneurial skills in the HRD model, whereby the TVET instructors in the engineering faculty at vocational colleges must implement vocational college-based teaching and learning curriculum. This includes on-job training (OJT) assessment to ensure they comply with the standards set by the relevant parties before they can be recognized by the Malaysian Qualification Accreditation (MQA) and *Jabatan Pembangunan Kemahiran (JPK)*. While the technical and vocational education system in the vocational colleges is well established, ongoing efforts need to be streamlined to expand the TVET curriculum to better meet the latest needs of the industry. So far, the HRD Model has been very consistent and accurate in showing the clear link between acquiring and applying the necessary components of competency for TVET instructors in vocational colleges.

As mentioned above, the Malaysian Teacher Standard Model (MTSM) involves the incorporation of professional values, teaching and learning skills, as well as knowledge and understanding in daily teaching. Thus, the model is closely linked to the competency of TVET instructors in vocational colleges. It is undeniable that a good teacher should fulfill all the features in the MTSM model. The explanation about the competence of professional pedagogy is clearly in line with the teaching and learning skills stated in the MTSM model.

Similarly, professional personality, values, and ethics can also be categorized in line with the practice of values in the MTSM model whereas professional components of social processes, management, knowledge, and skills can be categorized under the knowledge and understanding part of the MTSM model. All of these components of competence must co-exist and be applied by the teachers to fulfill their responsibilities as high quality and excellent teachers. The results of this study were in line with Abu Baser et al. (2016) who stated that the three levels in the MTSM model, namely practice of professional value, knowledge, and understanding, as well as teaching and learning skills, were crucial in the development of competent and excellent teachers.

Currently, the entrepreneurial competence of the instructors does not meet the actual needs and expectations (Abdullaeva et al., 2020; Panfilova et al., 2019) and no standardise tools to asses (Bolzani & Luppi 2020). As such, the competency of all the vocational college teachers needs to be further strengthened to improve the quality and excellence of TVET vocational college education and institutions in Malaysia. This can be achieved by increasing the awareness of the importance of the competency development process (Omar et al., 2011). Furthermore, various initiatives need to be taken to ensure that teachers' competencies in the field of entrepreneurship can be developed so that the students can reap the benefits. For example, entrepreneurship courses to

disseminate knowledge and basic skills among the students can be organized to attract students towards the field of entrepreneurship (Abd Rahman et al. 2015; Ibrahim, et al., 2015).

In order to achieve these goals and objectives, it is imperative for teachers to gain a deeper understanding of the guidelines presented in this study. The deficiencies and inadequacies of the instructors must be identified so that the necessary elements can be added to enhance their competencies. Based on the findings of this study, it is hoped that instructors will be able to receive the vital guidance to benchmark their respective competency levels before taking further steps in the right direction to account for any lack of competence.

Moreover, efforts should be made to engage highly qualified and skilled experts in the field of entrepreneurship to deliver more effective teaching and learning process to enhance students' knowledge and skills. Ultimately, this can produce successful and skillful students who are truly interested and self-reliant in establishing their entrepreneurial journey. In today's business world, it is possible to achieve the aspirations of the government for at least 20% of vocational college graduates to kickstart their businesses after graduation if the necessary steps are taken.

To achieve the target, relevant programs such as entrepreneurship courses and workshops as well as in-service training courses should be planned, especially for TVET teachers in the engineering faculty. Apart from that, the vocational

colleges can also organize activities such as in-service training program by engaging senior instructors to share their experience with TVET teachers. In addition, external experts such as renowned business owners or entrepreneurs in Malaysia can be invited to the colleges to deliver motivational talks and to disseminate their business knowledge and skills to the TVET engineering faculty. Motivation from successful business entrepreneurs is essential to spark interest among the students for them to open their minds to acquire the necessary knowledge and skills in entrepreneurship. Last but not least, business-related programs such as business carnivals or business month can be held in the organization. Students can be tasked to organize these activities with the help of vocational college instructors to develop their interests. Additionally, the business department can collaborate with the engineering department to organize programs with common knowledge and experience to benefit students in both departments.

CONCLUSION

In line with the goals of the Malaysian Education Development Plan 2013-2025, the need for competent, confident, and knowledgeable experts in the field of entrepreneurship calls for the necessary steps to address the competency gap among the TVET instructors. Based on the study findings, all the informants including director, teachers, and students agreed that entrepreneurship competency is highly needed by the TVET instructors

in vocational colleges. However, our study showed that the level of entrepreneurial knowledge and skills are still questionable among instructors. The current situation regarding the COVID-19 pandemic could also challenge the instructors to deliver entrepreneurial knowledge effectively. Therefore, the teaching of TVET entrepreneurship in vocational colleges should be improved through the several strategies identified in this study. Moreover, the value-added of the current situation needs to be studied further.

ACKNOWLEDGEMENT

We would like to express our sincere gratitude to the respondents who provided cooperation in this study.

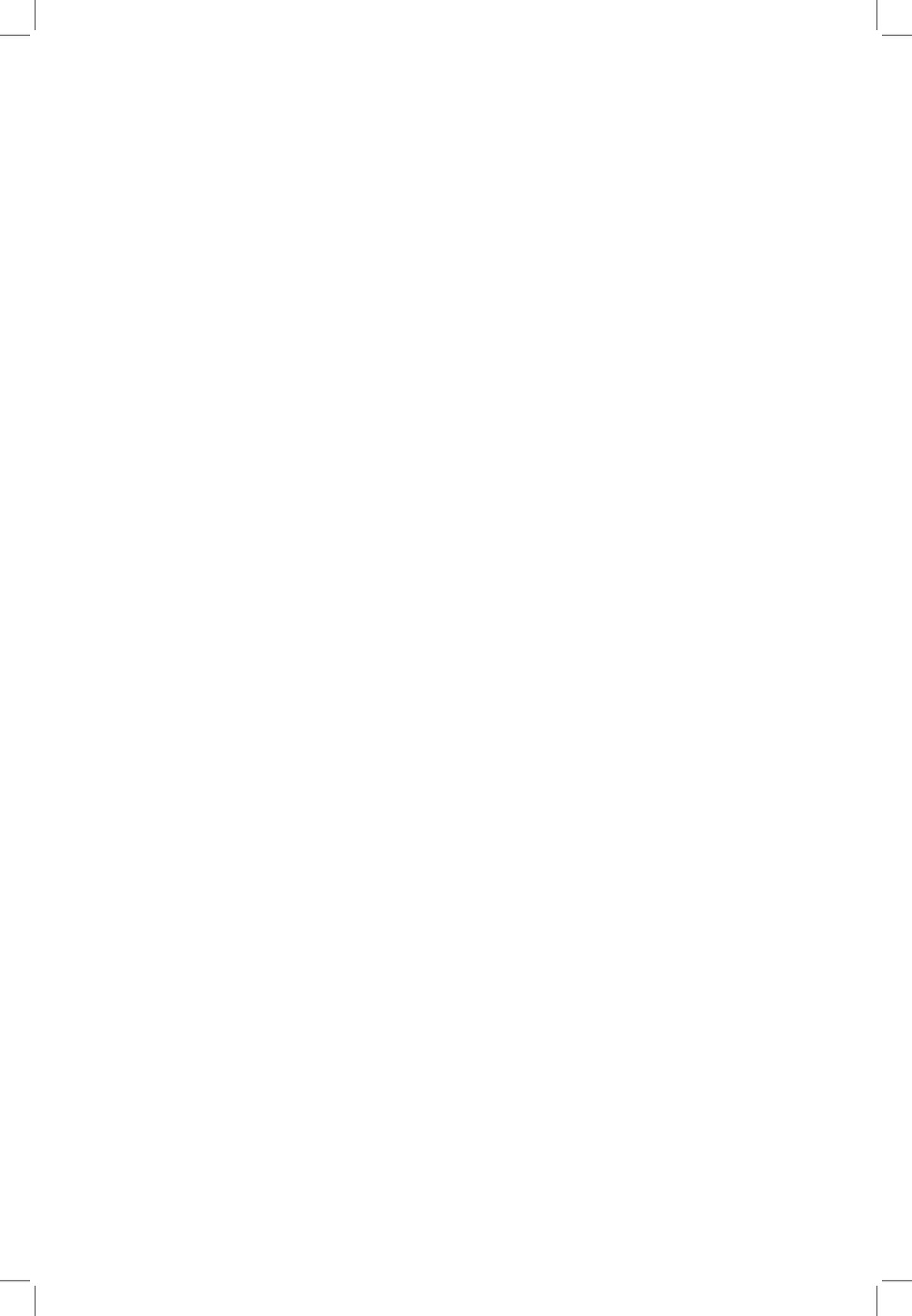
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Effect of Exercise and Weight Loss in Polycystic Ovarian Syndrome among Obese Women

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ABSTRACT

Ovulation and fertility can be improved by weight loss in obese women with Polycystic Ovarian Syndrome (PCOS). The aim of this study was to investigate the effectiveness of a twelve-week supervised exercise program in combination with dietary restrictions for obese women with PCOS. The study is a quasi-experimental research and used an experimental pre- and post-test design. Fifteen women recruited from Fertility Clinic, Jessops Hospital for Women, Sheffield took part in this study. Respiratory exchange ratio (RER), heart rate, perceived exertion (RPE), and Houston non-exercise activity code were recorded. Height, weight, and body girth measurements were taken to calculate body mass index, fat percentage, and lean body weight. The intervention group lost an average of 3.1 kg and gained 3.45 kg of lean body weight. Loss of fat percentage was 12.1%. No significant difference was found in the control group. The RER and heart rate value decreased for the

same workload in the intervention group, indicating higher tolerance towards exercise intensity. However, the changes for both groups were not significant. The average group compliance rate was 53% (at least two sessions per week). Bearing in mind the small sample size (n=4) for control, the improvement in fitness, significant weight loss, and body composition change (increase in fat-free mass) was achieved in this study. Twelve weeks of exercise, combined with dietary advice, were sufficient to benefit PCOS obese women. The research has

ARTICLE INFO

Article history:

Received: 13 November 2020

Accepted: 11 March 2021

Published: 14 April 2021

DOI: <https://doi.org/10.47836/pjssh.29.S1.07>

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achieved a commendable weight-loss objective and has demonstrated increases in standards of fitness among obese women.

Keywords: Dietary restriction, exercise, fertility, obesity, weight loss

INTRODUCTION

According to a WHO (2020), in both developed and developing countries, obesity is increasing globally at an unprecedented pace. This is a matter of concern because, for certain severe and morbid conditions, such as diabetes mellitus, hypertension, dyslipidemia, coronary heart disease and some cancers, obesity raises risks (Park et al., 2018). The risk of death due to coronary heart disease and diabetes mellitus is also increased (de Melo et al., 2017). Obesity in women may predispose to disorders like hirsutism (excessive hair growth on face and chest), virilization (production of masculine secondary sex changes in the female including voice changes and development of male type baldness), oligomenorrhea (reduced frequency of periods), and polycystic ovarian syndrome (PCOS), an endocrine abnormality. It is also a cause of anovulatory (failure to ovulate) infertility (Chandler, 2018).

A common endocrine disorder is Polycystic Ovary Syndrome (PCOS) in women of reproductive age (Ortega et al., 2016). PCOS is a condition characterized by disruption of the normal processes leading to ovulation and associated with hyperandrogenism, normal or elevated oestrogen levels (Biswas et al., 2002).

In PCOS obese women, there was an increase in circulating total oestrogen (higher level of oestrone than oestradiol). A higher aromatase activity (which converts androgens to oestrogen) and high oestrone levels triggers abnormal gonadotropin release. This may generate a wrong feedback signal that can modify the amplitude and pulsation of luteinizing hormones (LH) and suppressing follicle-stimulating hormones (FSH) (Patel & Shah, 2018). These chain reactions will result in a decrease or absence of the menstrual cycle, thus reducing the chance of getting pregnant for obese women. Scott et al. (2017) also reported that there could be an abnormal regulation of growth hormone (GH) secretion in PCOS women independent of body weight. This could explain LH and FSH stimulation irregularities because GH is responsible for the stimulation of both hormones. An early study by Kannan et al. (2019) showed that obese women made up to 43% of the women affected by menstrual disturbances, miscarriages, and infertility.

Weight loss through exercise and a sensible diet has been highly recommended as the first treatment for infertile and obese women (Dodd et al., 2011). Women (BMI >30) who have lost an average of 6.3 kg resumed ovulating and had 80% chances of getting pregnant. Through exercise, these women not only achieve pregnancy but are healthier than when they started and have a more positive attitude to life. These women did not have to reach their ideal weight to start ovulation, and this can be explained by differences in body

fat distribution (Goodarzi et al., 2011). An average weight loss of 10% was found to improve many abnormal hormonal parameter characteristics of PCOS. LH, FSH, and Testosterone return to normal levels, and ovulation is resumed. However, despite an increase in SHBG, it will still be surpassed if the subject is still obese (Kaaks et al., 2002).

Exercise programs for weight loss vary in intensity, frequency, and duration, causing significant discrepancies among research results (Kamalden & Gasibat, 2020; Samsudin et al., 2019; Safikhani et al., 2011a, 2011b; Safikhani, 2010;). Accelerated weight loss is not necessarily the result of exercise and dietary restrictions (Park et al., 2019). It was also suggested that exercise would have a more profound effect on men than women due to adipose tissue distribution (Despres et al., 1991). Obese women with adipose tissue (android) distribution of the male type responded to exercise essentially like males. Women with female type adipose tissue (gynoid) were found to have no metabolic improvements after training for three months, although insulin insensitivity improved (Pattanakuhar et al., 2017). Even so, physical activity was still suggested to stabilize hormonal imbalance, but it is expected to induce different responses in catecholamine and insulin metabolism in obese subjects as compared to subjects with average body weight (Belfort-DeAguiar & Seo, 2018). Hyperinsulinemia and insulin resistance, standard features of women with PCOS, were suggested to be influenced by body fat

distribution. These are also associated with a higher frequency of menstrual abnormalities (Conway et al., 2016).

Exercise assists in balancing energy expenditure and calorie intake. There are three categories of energy expenditure: the resting metabolic rate (RMR), the thermal effect of a meal (TEM), and the thermal effect of activity (TEA). All three have been shown to decrease with low-calorie intake except TEM in the obese subject. This could be due to the defective wastage component metabolism, which leads to a surplus of calories (MacKenzie-Shalders et al., 2020). Exercise can increase RMR, TEM, and TEA. The dietary reduction will decrease fat mass (FM) as well as fat-free mass (FFM). However, exercise helps retain or increase FFM while depleting FM. FFM has high metabolic rate characteristics and is essential for maintaining skeletal integrity to prevent and reduce osteoporosis (Sarkar et al., 2015). Loss of FFM may be deleterious by decreasing resting metabolism, resulting in weight management difficulties (Chaston et al., 2007).

So it has been suggested that reducing caloric intake and increasing physical activity will maximize weight loss. Besides, exercise was said to suppress appetite during intense activity due to the increase in catecholamines and physical activity's thermic effect. However, Wing (2004) found that a combination of diet and exercise in women did not give any extra weight loss of fat loss as compared to dieting alone. Whichever the case is, in developing an exercise program for the obese, the aim is

to increase RMR. However, the weight loss program's effectiveness will vary according to each individual depending on body fat distribution, self-motivation and peer encouragement.

Respiratory exchange ratio (RER) can be used to indicate the body's substrate utilization of energy and the presence of lactic acid (Nakano et al., 2019). During regular activity, a mixture of the nutrient is usually used. This includes carbohydrates, fat, and a small percentage of protein. The RER value is between 0.7 and 1.00. A value of 0.8 can be assumed as a result of 1 shows that majority of the energy is catabolized from carbohydrates while a value of 0.7 indicates metabolism from fat (Ong et al., 2018). This study aimed to determine the effectiveness of a twelve-week supervised exercise program combined with dietary advice for weight loss in PCOS obese women.

MATERIALS AND METHODS

Study Design

As a quasi-experimental, pre-test/post-test study, subjects were not randomly selected for treatment and control groups. This is an experiment in which measurements are taken both before and after treatment. Design means that you can see the effects of some type of treatment on a group (Mukherjee, 2019). The subjects were not randomly allocated to groups. Subjects from the exercise group were living near Sheffield and could attend the supervised sessions.

The University's Ethics Committee certified that the study was accomplished

according to the Declaration of Helsinki. The G*Power software version 3.1 was used to determine the sample size (Bujang & Baharum, 2017). The following parameters were selected: large effect size ($f = 0.85$), an alpha level of .05, a power level of 0.8, and two groups. The total sample size was determined to be at least 12. However, the total sample size of this study was 15. Participants in this study included 15 females, recruited from the Fertility Clinic, Jessop Hospital for Women, who were an average of 30.1 ± 4.6 years of age for intervention group and 37.5 ± 4.0 of the control group (Table 1). All participants met the inclusion criteria which included being a member of the recruited from the mentioned fertility center. Thus, 15 females were purposefully selected to participate in this study (11 interventions and four controls). The subjects were all diagnosed as having Polycystic Ovarian Syndrome (PCOS) and were considered obese ($BMI > 28.6 \text{ kg/m}^2$). Subjects were not receiving or consuming any hormonal medication, sedentary, and had been screened for risk factors (high blood pressure and cardiac problems). Subjects were advised on their dietary intake by a qualified nutritionist at the beginning and during the study. Therefore, the present study is based on a pre-test/post-test design without random assignment, or what is commonly called a "non-equivalent control group design" (Shadish et al., 2002).

For the control group, subjects were recruited from the same clinic. Eight subjects in the control group were living away from Sheffield and unable to attend the

Table 1

Mean + (standard deviation) for physical activity and anthropometric measurements. (NS = non-significant; $p > 0.05$)

Characteristics	Intervention Group (n =11)	Control Group (n =4)	P-value
Age	30.1 ±4.6	37.5±4.0	P<0.05
Height	1.61 ± 0.06	1.58±0.07	NS
Weight	92.95 ± 15.63	85.62±13.46	NS
Body Mass Index (kg/m ²)	35.94 ± 5.69	34.35±5.34	NS
Houston Non- Exercise Activity Code	2±1.4	1.5±1	NS
Estimated VO ₂ max (ml/kg/min)	22.47 ±4.96	19.06±4.69	NS

supervised exercise session. To minimize the contamination, the researcher asked the patient to minimize physical activity and maintain their condition at the time for a 'waiting period' of twelve weeks. Subjects were sent the full detail of the study, an information sheet, a map of directions, and an appointment letter for a treadmill test at the beginning of the study. Informed consent was obtained from subjects before the study. Subjects were encouraged to ask questions and reassured their rights to withdraw from the study.

Instruments and Procedures

Initial pilot work was undertaken to determine whether a modified Balke protocol would be suitable for these subjects. A Balke protocol is a continuous type maximal exercise treadmill test suitable for sedentary men and women (Kang et al., 2001). The Balke protocol maintains a constant speed

(3.3mph) but increases grade by 1% each minute (Balke & Ware, 1959). Balke justified his concern with physical fitness due to the alterations which were occurring with the onset of work automation, in the means of transportation and in many daily activities, leading to significant reduction of effort and consequently of physical exercise performance (Beltz et al., 2016). The initial workload was 5.0 km/h at 0% grade for warm-up before it increased to 5.5 km/h with an increase of 1% grade per minute.

The modified protocol took into consideration the fitness level of the subjects as compared to normal subjects. It was necessary to establish a suitable protocol to ensure that it will be strenuous enough to achieve 60 – 70% VO₂ max without high dropout rates. Four volunteers were used to determine the Balke protocol's suitability and found that a slower speed (4.5 km/h) as an initial workload as a warm-up and

adjusting to treadmill walking might be more appropriate for the potential subjects before increasing it to 5.0 km/h. The modified Balke protocol was deemed better because it starts at a slower pace, and only changes in grading after a suitable pace has been set, allowing the subjects to adjust comfortably to the treadmill speed.

Outcome Measures and Data Collection

The pre-intervention baseline data for both groups were collected three weeks before the commencement of exercise classes. These tests were repeated for 12 weeks. All data collection, anthropometric, and physiological tests were conducted in Physiology Laboratory, Sheffield Institute of Sports Medicine and Exercise Science at the Physiotherapy Department of The Royal Hallamshire Hospital. Subject's activity levels were determined using the Houston Activity Code Questionnaire (Jackson et al., 1990). VO_2 max values were then predicted for each subject using the formula:

$$VO_2max = 56.363 + (1.921 \times activity\ level) - (0.381 \times age) - (0.754 \times Body\ Mass\ Index)$$

The subject's height and weight were also measured to calculate Body Mass Index (BMI). This was measured before the treadmill testing at the beginning and the end of the study. BMI is defined as the ratio of body weight (kg) to the square of height (m).

The body circumference measurements were chosen because of its simplicity and suitability in predicting fatness in obese.

This method was based on the criterion value of body density and percentage of body fat determined by hydrostatic weighing or water displacement methods (Kardani & Rustiawan, 2020). Once these circumference measurements have been obtained using a cloth tape, corresponding constants A (abdomen), B (right thigh), and C (right calf or forearm) were determined. Weight of fat and lean body weight was then calculated for comparison according to the following steps:

An initial test was carried out to determine the repeatability of the respiratory exchange ratio (RER) measurement of the gas analyzer. One volunteer, not physically active, carried out the whole protocol four times within a week to avoid the training effect. RER and heart rate were recorded. The standard deviation for the RER is 0.024, and the heart rate is 0.99. The standard deviation value above this value indicates changes in measurements.

Calibration of the oxygen (O_2) and carbon dioxide (CO_2) analyzer, Cardiopulmonary Exercise Testing Med Graph System (CPX/D) was carried out on each occasion before the testing. This involves setting the right temperature, humidity, and pressure of the occasion. The CPX/D was calibrated against a reference gas sample of O_2 and CO_2 for every subject. During the treadmill test, subjects wore a mouthpiece and nose clip. The mouthpiece was connected to the breath analyzer, CPX/D, to obtain a respiratory exchange ratio (RER). RER is the ratio of metabolic exchange. It is the ratio of CO_2 produced

and O₂ consumed. RER can indicate the substrate being catabolized for energy. At the same time, measurements of ventilator expiration (VE), VO₂, VCO₂ were recorded as well at 30 seconds intervals. Heart rate was recorded using the POLAR heart rate monitor (POLAR Sportstester, Finland). Through the exercise test, subjects were asked to indicate their exertion using the Borg rate of perceived exertion (RPE) 10-point Scale.

Treatment for Groups

Intervention Group-Exercise Group.

The exercise classes include three types of activities; aerobic, aquaerobic, and gym sessions, and were conducted over twelve weeks by a qualified instructor and the researcher. The subjects were requested to attend at least two, one hour sessions of supervised exercise classes and were encouraged to do other exercises on their own. Exercise sessions, intensity, and duration were recorded in an exercise diary. Attendance was monitored, and a 50% attendance was set as a level for compliance (a minimum of 12 classes). The exercise programs involved aerobic exercise (i.e., those involving the oxygen energy system) and aimed to work for the significant muscles group. The researcher was present at all sessions to encourage and co-supervise the exercise session. Subjects were encouraged to drink as often as possible during the exercise sessions to keep them hydrated.

Control Group. Subjects were asked to carry out their regular activity. These subjects were those who do not participate at all in any supervised exercise sessions. Daily activities like walking and gardening were excluded. The subjects were given the same dietary advice as to the intervention group at the beginning of the study.

Statistical Analysis

Statistical analysis was conducted using SPSS. The groups' baseline characteristics were compared using non-parametric analysis (Mann-Whitney U test). The group pre- and post- measurement of body weight, BMI, PER, heart rate, and other fitness parameters, i.e., RPE and VO₂ max, were evaluated using the Wilcoxon Signed-Rank match paired test, to test for differences in median group score. A significance level of 5% was applied through this study.

RESULTS

Baseline Measurements

Physical Activity Level and Anthropometric Measurements.

The comparison of baseline measurements between the intervention and control group are displayed in table 1.

All data were compared using Mann Whitney U-Test for independent samples. The control group was significantly older than the intervention group ($p < 0.05$). There were no other significant differences between the other group characteristics.

Pre/post Measurements

Pre/post Anthropometric Measurements.

All data pre-and post-intervention were compared using the Wilcoxon signed-rank test for the intervention and control group see (Table 2). A comparison between groups was made using the Mann Whitney U test. Weight, body mass index and body fat percentage decreased significantly in the intervention group ($p < 0.05$). There was also a significant increase in the lean body weight of the intervention group. There were no significant changes in the measurements for the control group.

Pre/Post measurements of physical Activity, VO₂ max, and Rate of Perceived Exertion.

The pre- and post-intervention data for both groups were calculated using Wilcoxon Signed ranks test for paired samples. Each subject determined RPE values at the end of a treadmill protocol. The intervention group showed a significant increment for the activity codes and VO₂ max ($p < 0.05$). The Mann Whitney U test for independent samples was used to compare the measurements between both groups. No significant difference was found.

Pre/post Measurements of Respiratory Exchange Ratio (RER) and Heart Rate.

The pre/post-intervention data for both groups' data were compared using Wilcoxon Signed ranks test for paired samples, while the Mann Whitney U test for unpaired samples was used to compare between groups. There were no significant differences

Table 2

Mean (+ SD) Pre/post anthropometric measurement for intervention (n =9) and control group (n = 4) (NS = non-significant; $p < 0.05$)

Intervention Group	Pre	Post	Difference (%)	p-value
Weight	89.61 ±15.24	86.56 ±14.57	-3.1(3.4%)	P<0.01
Body Mass Index (kg/m ²)	35.06 ±5.87	33.87 ±5.66	-1.19(3.4%)	P<0.05
%fat	33.58 +/- 6.77	28.29 +/- 7.69	-4.62(12.1%)	P<0.01
Lean Body Weight	55.29 ±3.99	58.74 ±4.10	+3.45(5.9%)	P<0.05
Control Group	Pre	Post	Difference (%)	p-value
Weight(kg)	86.53 ±13.46	83.9±12.24	-2.63(3%)	NS
Body Mass Index (kg/m ²)	34.35 ±5.34	33.85±5.04	-0.5(1.4%)	NS
%fat	38.60 ±6.16	36.12±4.80	-2.48(6.4%)	NS
Lean Body Weight	52.0 ±3.42	53.25±5.03	+1.25(2.3%)	NS

in measurements for both groups.

Mean percentage changes in RER and heart rate after 12 weeks for the intervention (n= 9) and the control group (n=4) were calculated and displayed. There was a decrease in RER for both groups, with the intervention group showing more significant reduction; mean percentage change (\pm S. E.) = -2.49 (\pm 1.78) compared to the control group; mean percentage change (\pm S. E.) = - 0.55 (\pm 3.0). Analysis of the mean percentage change in heart rate showed that the intervention group's mean heart rate decreased; mean percentage change (\pm S. E.) = -1.95 (\pm 5.6) while the control group's mean heart rate increased; mean percentage change (\pm S. E.) = + 7.0 (\pm 6.8).

DISCUSSION

Pre/Post Measurements

Pre/post Anthropometric Measurements.

There were significant decreases in the weight, BMI, and percentage of body fat in the intervention group ($p < 0.05$). Both groups increased the lean body weight, but only the intervention group's change was significant ($p < 0.05$). There was an average of 3.1 kg (3.3%) weight loss, a reduction of 12.1% of fat, and an average increase of 3.45 kg of lean body weight in the intervention group. This indicated that the subjects' body composition had changed due to the effect of diet and aerobic exercise. The dietary restriction may have helped in maintaining total weight loss.

The exercise also helped maintain lean body weight and further increased

the quantity of lean body mass in the intervention group (6.24%). In this study, we used anthropometric measurements to predict body fat and lean body weight. The error in predicting an individual's body fat using this method is ± 2.5 to 4.0% (McArdle et al., 2013). This method was chosen because it has relatively low prediction errors, whilst the measurements easy to take, and measurements are well suited for the obese for determining patterns of fat distribution on the body and changes in fat following weight loss (McArdle et al., 2006).

Recoded exercise research studies on PCOS obese women have demonstrated similar findings. Garrow and Summerbell (1995) had shown that diet alone for a 10 kg weight loss, the expected free mass (FFM) loss was 2.2 kg in women. However, with a similar weight loss achieved by exercise and dietary restriction, the loss of FFM was reduced to 1.7 kg. Although there was some weight loss, it was not great. In this study, body composition changes did occur but were also relatively small. Any decrease in body weight was due to body fat loss because lean muscle mass was seen to increase in most subjects. The present study has achieved a weight loss of over 3.3% in just three months. Thus, in the present group, a weight loss of 5% or more should be within reach if the exercise program continues for another three months, as will be the case in a follow-on study from the present.

Norman et al. (2007) studied the effect of weight loss by gradual dietary changes and regular exercise for over six months.

The study emphasized a group approach for the treatment of obesity and infertility. The subject lost an average of 6.3 kg and showed marked improvement in pregnancy and ovulation rates. In this study, the intervention group's ovulation rates were being monitored by a clinician. However, by the sixth week of the exercise program, one subject had successfully resumed her menstruation while the other began to notice a regular menstruation trend. She had irregular menstruation previously. The magnitude of change in body mass and composition is also highly dependent on the exercise program's duration, frequency, and intensity. It may be possible that a threshold exists before alterations in body mass, and composition can occur (Wilmore, 1996).

Pre/Post Measurements of Physical Activity, VO₂ Max, and Rate of Perceived Exertion (RPE). There was a significant increase in activity code, and hence estimated VO₂ max (8.79%) ($p < 0.01$). The rate of perceived exertion (RPE) also changed significantly in that it signifies that the subjects perceived the latter treadmill test as more comfortable. RPE was found to be more useful in determining exercise intensity than heart rate. A patient or athlete can use RPE to work within a training zone. This training zone has been identified as 50–80% VO₂ max, 60–90% maximal heart rate, and it correlates to 5 to 9 (healthy to very strong) on the RPE 10-point scale. Because high-intensity exercise is not tolerated by overweight subjects, keeping within this training zone is essential for the exercise

program (Mascarenhas et al., 2016).

RMR has also been associated with the changes in fitness level, VO₂ max, and body composition. However, there were discrepancies between VO₂ max and RMR because of insufficient sample size and statistical power to detect differences in RMR between groups that vary in aerobic fitness (Brochu et al., 2001). The RMR can be estimated from parameters such as FFM, weight, body surface area, or combination of age, gender, weight, and height (Dugdale et al., 2010). An increase in the proportion of FFM to total body weight may increase RMR. A low rate resting metabolic rate (RMR) for a given body composition was identified as a risk factor for weight gain and obesity and reported in formerly obese individuals with the genetic predisposition for obesity (Heilbronn & Ravussin, 2003). Nevertheless, because RMR represents between 60% to 70% of the total energy expended each day in an active individual who is not training, an increase of only 1%–2% in RMR could have a significant effect on weight regulation over the long term (Dugdale et al., 2010). A cross-sectional comparison of RMR of exercising subjects and non-exercising subjects may be useful in detecting the effects of large differences in maximal aerobic power and training status on RMR; RMR has also been used in fitness level changes between trained and untrained individuals (Brochu et al., 2001).

Gadducci et al. (2017) evaluated the metabolic changes of obese men and women and the effects of exercise and weight loss. It was found that after three months (three

one hour sessions per week) of physical training, gynoid obese women did not show any metabolic rate changes. The present study did not differentiate the type of female adiposity, which could explain the difficulty of some women in losing weight. This study looks into consideration that the majority of the PCOS obese women who took part were sedentary, Houston non-exercise activity code (2 ± 1). This study looks into the improvement of fitness level but did not compare it to the average population. The initial aerobic exercise was a low impact to allow adaptation to the exercise program's new physical challenges and avoid premature dropouts.

Pre/Post Measurements of Respiratory Exchange Ratio (RER) and Heart Rate.

There was an average decrease in the RER and heart rate for both groups. The RER and heart rate values in both groups were taken as an average at minute 13th to be compared. RER was used to indicate the body's substrate utilization for energy and the presence of lactic acid. During the regular activity, a mixture of the nutrient is usually used. This includes carbohydrates, fat, and a small percentage of protein. The RER value is between 0.7 to 1.00. A value of 0.8 can be assumed due to the metabolism of a mixture of 40% carbohydrate and 60% fat. A value of 1 shows that the majority of the energy is catabolized from carbohydrates, while a value of 0.7 indicates metabolism from fat. During exhaustive exercise, lactic acid is produced. In order to maintain the acid-base balance in the blood, sodium bicarbonate

will buffer the lactic acid. Moreover, in this process, carbonic acid is formed and is broken down to CO₂ and water. The excess CO₂ exits from the lungs, thus adding extra CO₂ to the quantity that is typically released during energy metabolism.

In some instances, the RER of a fat person on a high carbohydrate diet can also exceed the value 1. Oxygen is released when a carbohydrate diet can also be converted into fat as it is being stored. This extra oxygen can be used in energy metabolism resulting in less atmospheric O₂ consumed even though the usual metabolic complement of CO₂ is released during energy metabolism. In this study, the obese subjects took time to breathe through the mouthpiece with the nose clip. The researcher had observed that the majority of the subjects were hyperventilating at the beginning of the treadmill protocol. This could have been caused by a high state of arousal or just mechanical inefficiency of walking on a treadmill.

Nevertheless, it may have been the reason for the fluctuations in the RER measurements during the protocol. Whipp and Davis (1984) suggested that obesity was a factor that limited exercise tolerance because it imposed additional stress to ventilation during exercise. This is a direct result of the increased body mass requiring greater energy exchange. The obese women had an increased metabolic cost of breathing because of the interfering chest wall and abdominal obesity and high breathing frequencies. Besides, obese subjects have reduced 'motor efficiency' as a result of

relatively low mechanical skill. This is because increased tissue mass and bulk hinders specific limb motion directions requiring increased energy to overcome this inertia. Thus, it has been suggested that the role of support and posture to minimize the effect of obesity should be considered to improve exercise tolerance in obese subjects.

Except for one subject who had asthma on the day of the second treadmill test, the subjects from the intervention group could exercise longer before reaching the RER value of 1. Some subjects completed the whole protocol without reaching the value 1 at all.

There were many variations in the measurements of the RER. As RER considers the rate of O₂ uptake and CO₂ produced, this makes it susceptible to many confounding factors, psychologically. CO₂ can increase from hyperventilating, and this would not reflect the true metabolic demands of a particular situation. This results in a reduction of the average CO₂ level in blood. Furthermore, it is not accompanied by a corresponding increase in oxygen consumption resulting in RER value above 1. The subjects were anxious and apprehensive during the earlier treadmill test. As some were sedentary and seldom exercise, walking on a treadmill for 15 minutes can be a significant ordeal. Walking into a clinical environment can also be intimidating for some and causes some anxiety to others. Motivation does seem to influence the subjects during the treadmill test. Subjects were more motivated and

eager to prove that they were much fitter for the second treadmill test. The intervention group had a significantly lower perceived exertion rate, suggesting that the task was more comfortable for the intervention. Before starting the treadmill test, the subjects were asked to relax for at least 20 minutes to get their heart rate stable and as low as possible. However, as soon as the subject was informed that the test was about to begin, the heart rate started to increase, making the initial rest not useful.

Research on RER has shown that individuals with a high resting RER value are more prone to gain fat. Maunder et al. (2018) found that 24-hour RER could affect weight gain in obese men and women. If 24-hour fat oxidation is low relative to carbohydrate oxidation, the excess in energy will be stored mainly as fat. The heart rate values for both the intervention was lower (2.9%) in contrast with an increase in the control group. There were many variations as well in heart rate measurements. The POLAR heart rate monitor could not record the heart rate during the treadmill protocol for some of the more obese subjects because of the thick fat layers, which resulted in low signal quality and erratic response. Fortunately, the rate of perceived exertion was also recorded for each subject.

CONCLUSION

The twelve weeks exercise program combined with dietary advice has shown a significant change in weight and body composition in the intervention group ($p < 0.05$) compared to those in the control

group. Although there were changes in the RER and heart rate values for both groups, these were not significant. The rate of perceived exertion, activity code, and predicted VO₂ max showed significant changes as well as indicating an improvement in the fitness level of the intervention group. The exercise program's compliance rate was moderate, and the mode of exercise program provided was well received. The study had achieved a commendable target of weight loss and had shown improvements in fitness levels.

IMPLICATIONS

The group's cohesion and support from all involved in the study were an essential component in the exercise program's success. A more controlled, longer-term study to relate and determine the duration of the beneficial effect of exercise and other physiological changes, i.e. hormonal changes, insulin sensitivity in PCOS women is needed. As the global coronavirus (COVID-19) pandemic unfolds, more than 90% of the U.S. women residents are confined to their homes, with restaurants, shops, schools, and workplaces shut down to prevent the spreading of the disease. A holistic approach to weight loss in PCOS needs to be adopted: one that discusses not only behavioural reform but any possible mental and emotional obstacles to its successful implementation. Only then can we expect to turn the typified vicious weight-gain loop and exacerbated PCOS features into a liberated virtual cycle of successful weight loss and eventual

liberation from PCOS shackles.

ACKNOWLEDGEMENT

The researchers would like to acknowledge the participants from Jessops Hospital who participated in this research conducted as part of Tengku Fadilah Tengku Kamalden's Master dissertation of Sheffield Institute of Sports Medicine and Exercise Science, University of Sheffield.

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A Comparison of a Client's Satisfaction between Online and Face-to-face Counselling in a School Setting

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ABSTRACT

During the current Covid-19 pandemic, the social relationship between humans has changed. As noticed, lockdowns and social distancing have become new norms. Unavoidably, counselling services were also affected with social distancing rules, especially in the school setting. Thus, online counselling or e-counselling has begun to gain in popularity, allowing counsellors to offer their services in an alternative way. In order to evaluate the suitability of e-counselling during the current pandemic, a client's satisfaction towards e-counselling and face-to-face counselling needs to be investigated. This study aims to explore the effectiveness of these two counselling approaches using the level of the client's satisfaction and its implication towards counselling practises during the outbreak. Quantitative data were obtained using the Client's Satisfaction Inventory Short-Form (CSI-SF) questionnaire. The experimental design consisted of a total of 60 study subjects in two groups, namely the control group using the face-to-face Counselling method and the experimental group using the e-Counselling method. Based on the results, the difference in

mean score showed that the mean difference in the experimental group was slightly higher than the control group. This finding indicates that e-counselling clients have a higher satisfaction compared to the face-to-face approach. The implications of this data are discussed on the role of school, school counsellor, and the government in enhancing the service of e-counselling during the current pandemic.

Keywords: Counselling, client satisfaction, e-counselling, secondary school, students

ARTICLE INFO

Article history:

Received: 13 November 2020

Accepted: 11 March 2021

Published: 14 April 2021

DOI: <https://doi.org/10.47836/pjssh.29.S1.08>

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INTRODUCTION

The advancements of technology in computers and the internet have brought upon the introduction of e-counselling decades ago, thus is not a new concept in the field of counselling. E-counselling started early in the 1960s in countries in the western region such as United states, with the development of the computer softwares, ELIZA and PLATO, where clients respond to a computer instead of real, virtual counsellors (Lunt, 2004; Zainudin & Yusop, 2018a). Sometime later, the “Ask Uncle Ezra” website was introduced but was still a computer-programmed interaction. Following this, the establishment of e-counselling between real clients and real counsellors in a virtual setting began around the 1990s (Lunt, 2004; Zainudin & Yusop, 2018a). In Malaysia, the use of e-counselling services was established in the 1990s as well, to cater to the demands in the academic setting and the worrisome social issues rising among teenagers (Zainudin et al., 2019). By definition, according to Bloom (1998), e-counselling, or cyber-counselling, is “the practice of professional counselling that occurs when client and counsellor are in different or remote locations with the medium of technology to assist communication with each other”.

The internet allows different types of e-counselling modalities to be performed. Modalities of e-counselling can be divided into synchronous chat and asynchronous mail. E-counselling provided via synchronous chat can be defined as the counselling session conducted

synchronously where the counsellor and their client are meeting and interacting online at the same time (Glasheen et al., 2017). This modality is appealing as it makes use of social networking services and instant messaging applications such as WhatsApp, that act as a communication tool. In this modal, clients can schedule the counselling session at their convenience, and it would be considered as less formal session compared to the other e-counselling modalities. To overcome one of the challenges of e-counselling in picking up non-verbal communication, e-counselling services by synchronous chat can also be delivered via video conferencing using a web camera (Glasheen et al., 2017). The asynchronous mail mode of e-counselling refers to a counselling session mediated by the exchange of electronic mails, and the client may experience a time delay in getting a feedback or response (Glasheen et al., 2017). However, with electronic mail, both the counsellor and client can take time and put more consideration into translating their thoughts into words. Nevertheless, both modalities reduce a client’s need for commuting to counselling sessions and are able to assist clients under quarantine.

The demand of using e-counselling is increasing yearly due to ease in internet accessibility (Paterson et al., 2017), which did not only happen during the pandemic. Moreover, the current generation prefers virtual communication compared to a face-to-face one. A research done by Dowling and Rickwood (2015) in Australia reported that 16% of age 15 to 19-year-old young

people preferred to seek help online than face-to-face. In addition, the report stated that 30% of the young people in Australia would search information online regarding mental health rather than seeking help from a professional such as a counsellor (Dowling & Rickwood, 2015).

There are many reasons why clients prefer to join e-counselling to solve their issues which can be sensitive, and two of which are the sense of inhibition and anonymity. These reasons will motivate some clients to seek online counselling in the first attempt (Fang et al., 2017). E-counselling has made counselling sessions more convenient to communicate with clients without the impact of distance or location. It has thus become a medium for the mental health service.

The Coronavirus disease 2019 (Covid-19) pandemic is affecting the world. The virus has an incubation period of about 2 to 14 days (Luca & Calabro, 2020) and can be fatal. Fatality occurs mostly in individuals aged 60 and above and with underlying conditions such as diabetes, hypertension, kidney, heart and other diseases (Bernama, 2020). As a result of mitigation and prevention measures to control the spread of the virus, including lockdowns, social distancing and Standard Operating Procedures (SOP) the social relationship between humans has changed.

The SOP for the school setting has included virtual classes and partial or stage-based return of students to schools. This protocol had additionally affected the relationship between counsellors and their

clients. Due to the possible spread of the virus through saliva droplets, contact with an infected person and surfaces (Luca & Calabro, 2020), both counsellors and clients are faced with psychological distress to having face-to-face counselling sessions. The counselling departments of schools are also applying SOP and guidelines set by the Malaysian Board of Counsellors. A student who wishes to seek assistance from a counsellor needs to make an appointment and complete a declaration form before starting the session. A safe social distance must be maintained in the counselling session with a limited number of clients per session (Malaysian Board of Counsellors, 2020). This SOP has caused some schools with space limitations unable to conduct group counselling. Thus, there are increased challenges with having counselling sessions with students during the pandemic.

Generally, the pandemic has triggered a drastic change in counselling and mental health care services due to the preventive measures such as social distancing and lockdowns (Feijt, et. al., 2020). In a very short time, counsellors had to transfer their services to an online platform. E-counselling has thus become a popular approach used by counsellors and therapists to maintain a healthy relationship with their clients and in providing necessary services to support the community with psychological issues during the Covid-19 pandemic (Luca & Calabro, 2020). The school counsellors are also applying e-counselling through phone calls or video calls to help their clients in maintaining a healthy psychological well-

being (Malaysian Board of Counsellors, 2020). Face-to-face counselling sessions remain to be provided in schools but only with students who attend school physically and are suffering from high stress or depression during the pandemic. The remaining students who have milder conditions or suffering from issues caused by the act of quarantine will be counselled using e-counselling by the school counsellor.

Despite the integration of the internet into almost everyone's daily activities, the number of Malaysian school students participating in e-counselling is surprisingly low, even with the increasing interests in the importance of good mental health. This study focuses on gauging the effectiveness of both face-to-face counselling and e-counselling services provided to school students and to also compare the level of the clients' satisfaction between the two approaches. This is to help provide an overview of the suitability of using the e-counselling approach during this pandemic. There are studies which determined the student cum clients' satisfaction towards face-to-face counselling and e-counselling methods in the past (Barak et al., 2008; Gallant & Zhao, 2011; King et al., 2006; Zeren, 2015; Zainudin & Yusop, 2018b; 2018c), which are discussed further in the next section.

LITERATURE REVIEW

Satisfaction towards Both Counselling Approaches

To gain knowledge on client satisfaction towards counselling services provided in schools, past studies on opinions and

perceptions towards the service from a variety of perspectives were conducted and the data had been gathered. Findings from a study by Gallant and Zhao (2010) demonstrated that at least 59% of their clients reported satisfaction towards the face-to-face counselling approach, mainly for academic purposes and college preparation, followed by for personal, social, and emotional problems. The satisfaction level of HIV/AIDS patients involved in a study by Papanna et al. (2012) was also found to be about 60%. Here, the majority of the respondents felt contented with the counselling services and that the information gained during the session would be beneficial to them in some ways. According to a comparison study by Zeren (2015), clients are satisfied that they received appropriate solutions to their problems, and are most likely those who received face-to-face counselling. By the end of the counselling sessions, client responses implied that their self-awareness had increased and they were able to take initiatives to solve their problems (Zeren, 2015). The finding of a study done by Glasheen et al. (2017) indicated that the school principals felt that the school's face-to-face counselling played a role in empowering students in articulating their thoughts better, and was necessary for the development of soft skills that could be beneficial for their future and career. In regards to the functionality of the counselling services provided by the school, this finding was inconsistent with a study by Arfasa (2018), in which both teachers and students of the South West Ethiopia

Secondary Schools had expressed concerns regarding the inefficiency of the services on handling students' issues, such as academic-career development, personal problems, student empowerment and decision-making skills, but necessity wise, they did agree that the counselling and guidance services in schools were obligatory.

Kids Helpline in Australia conducted several surveys every year in its effort to comprehend the satisfaction level and short-term effect by its young clients after a counselling session. It was found that 4 out of 5 clients were feeling satisfied with the service, 9 out of 10 would recommend the service to others, and 3 out of 4 believed that the counsellors were helpful in guiding them (Hawke, 2017). It seems that Kids Helpline has been improving their services, as reflected in a previous study by King et al. (2006), whereby its young clients had experienced three main difficulties of using the online platform, which were insufficient time per counselling session; long waiting queue; and insufficient hours of service availability. Additionally, Wong et al. (2018) reported that there are about 35% of their clients who are not interested to partake in a conventional counselling session but would be slightly open to the idea of online counselling. On top of the pleasantries of being able to properly write things at their own time, participants of text-based e-counselling perceived that they have a greater sense of control over the whole counselling session due to the less confrontational environment of the session, and that they are also feeling protected

from the counsellor's unexpected negative emotions (King et al., 2006).

Factors Contributing to Clients' Perception towards Both Counselling Methods

Throughout the process of gaining a better understanding and improving the satisfaction level towards both face-to-face counselling and e-counselling approaches, several contributing factors have come into light. These factors are stigmatization, counsellor's skills and roles, individual needs and convenience, the attitude of the clients themselves, the Covid-19 outbreak and benefits of e-counselling.

Relatedly, the discussion on mental health has long-time been a taboo subject in the Asian community and the negative societal labelling of persons with mental health issues has taken its roots in Malaysia and this would definitely cause students to be much more hesitant to seek help. Chen and Kok (2017) summarized their findings regarding the barriers existing towards school counselling and had found out that the predominant factor preventing school students from getting help was the self- and public stigmatization surrounding the service. Due to stigma, counsellors in a study by Jaladin (2013) felt that their young client sometimes exhibited a lack of acceptance, trust, and confidence towards the counsellors. An example of the common stigmas in Malaysia reported by Jaladin (2013) was the 'mentally-ill' label on people who sought guidance from a therapist. The strong negative emotions that arise from the negative public stigmatization

created shameful and fearful feelings, thus eventually resulting in self-concealment and unwanted self-reliance in order to cope. Self-concealment was the major challenge that deterred university students from getting help from counselling services in a study conducted by Mahfar et al. (2017). A finding also revealed that self-stigma was negatively related to the face-to-face variable, and fortunately, not related to the online variable of the study (Joyce, 2012). Opinions from an Italian licensed psychologist, revealed that e-counselling would help lower client social stigma compared to face-to-face counselling service (Cipolletta & Mocellin, 2017).

Talib et al. (2019) mentioned that the clients' satisfaction from a face-to-face counselling session was greatly controlled by a counsellors' positive characteristics and skills. According to a study done by Sakiz and Sariçalı (2019), the school and university counselling community in Turkey believe that effective counselling services entail adequate skills from experienced and professional counsellors, in order to evaluate and conceptualize the clients' needs, without neglecting an individual's personal and cultural characteristics. Unfortunately, not many counsellors were given opportunities to convert the learnt theory into practice, due to the limited number of case studies, and hence they became counsellors with no real counselling practice (Sakiz & Sariçalı, 2019). The attitude of highly intelligent and gifted student participants in Abu Bakar's (2015) study also implied the student's lack of trust over the school counsellor's credibility. Alternatively, they would rather

confine their problems to themselves and would only seek help once the situation has deteriorated badly, but even so, school counsellors were not at the top of their priority list of people whom they would want to share the problem with.

From the e-counsellors' perspectives in a study by Finn and Barak (2010), the majority believed that both face-to-face counselling and e-counselling are on par in terms of effectiveness, although they established that both methods seem suitable at covering a different area of problems. While e-counselling is more effective at dealing with social and sensitive issues, face-to-face counselling seems to find its strengths over issues like future career employment, mental health and physical-affiliated trauma (Finn & Barak, 2010; Glasheen et al., 2016). In a study by Parker and Ray (2017), Latino students put emphasis on the importance of joining college and career programs provided by their school counselling unit, as the Latino highly regarded education and career as crucial needs for their children. Therefore, a high level of clients' satisfaction can be achieved if the client is guided to the most suitable approach for their problems.

Scott et al. (2009) believed that there was a positive inter-related connection between the clients' attitudes towards mental health service and satisfaction. Clients who approach counselling services with a positive mindset are more likely to complete their designated programs compared to clients who are being forced. Besides being disinterested in the school counselling's

curriculum, students are in doubt about the purpose behind school counselling and deemed the counselling programs to be a boring one-sided interaction (Abu Bakar, 2015). Findings from Mahfar et al. (2017) also illustrated that a low perception level among university students could be influenced by a student's lack of effort themselves. According to Li and Leung (2020), students who have successful experience with counselling before the Covid-19 pandemic will be more willing to attend an online session during the pandemic. Also, in their findings most of the students who engaged in online counselling are associated with emotional distressed and withdrawal symptoms.

According to Glasheen et al. (2016), young people are more likely to use online counselling if it is provided in their school, while there is insignificant difference between gender in intention of using online counselling. Anonymous online counselling creates the sense of safety for students to discuss a topic that is sensitive or on sexuality with the counsellor. The availability of this form of counselling will therefore encourage more students to come forward and seek help, while providing more comfort (Glasheen et al., 2017). A report by Dowling and Rickwood (2015), which compared young people who did and did not take part in online counselling, stated that online counselling did not affect the psychological distress and life satisfaction of the client, but would increase the level of hope in young people (Dowling & Rickwood, 2015).

Coming back to the current situation, the lockdown has caused many individuals to be confined in their own homes. According to Stephen (2020), due to the temporary discontinuation of the face-to-face counselling session during the outbreak, e-counselling has become a necessary tool for the counsellors and practitioners to offer their service to the community. Moreover, e-counselling is able to benefit the community during the outbreak while many individuals seek guidance on deciding their next steps amid the current situation (Stephen, 2020). Furthermore, findings from a study by Chan et al. (2007), found that e-health promoting health and protection is important during the pandemic, and is helpful in reducing anxiety and improving knowledge on the main transitions many had to undergo, while e-counselling is also part of the e-health.

On the other hand, e-counselling holds some benefits that face-to-face counselling does not have. E-counselling is more convenient compared to face-to-face counselling. The flexibility, accessibility and immediate nature of e-counselling are very helpful features for some clients, as e-counselling can be done anytime and anywhere (Lau et al., 2013). Students mentioned that e-counselling makes the process less constrained compared to face-to-face counselling (Fang et al., 2017). This mode of counselling also benefits clients facing difficulties leaving their home (Lau et al., 2013). Besides, e-counselling is a form of asynchronous communication where the counsellor and client does not

interact at the same time such as when using email, WhatsApp or other social-based applications, which might have time-delays during a counselling session. This provides sufficient time for clients to prepare their concerns and issues (Lau et al., 2013), which might lower the level of stress faced by the clients.

OBJECTIVE

To evaluate the suitability of e-counselling during the new norm, the client's satisfaction in using e-counselling and face-to-face counselling needs to be justified. Specifically, the study is aimed to:

1. Identify client's satisfaction level in face-to-face and e-counselling approaches.
2. Identify the differences between each item of the client's satisfaction level between face-to-face and e-counselling approaches.
3. Define the significance of the differences identified in client's satisfaction level between face-to-face and e-counselling approaches.

METHODOLOGY

The quantitative experimental approach was chosen for this study to evaluate the dynamics of students' satisfaction on both face-to-face counselling and e-counselling services. Referring to the stringents experimental procedures as conducted by Kalantarkousheh et al. (2012) and Al Horany et al. (2011), the study sample consisted of 60 students aged from 13 to 18 years old in a secondary school in

Malaysia. The participants were selected using a random sampling method to allocate between experimental and control groups.

The control group in this study was a group of participants engaged in a face-to-face counselling session when the school reopened during the Covid-19 pandemic, whereas the experimental group consisted of participants opting for the e-counselling approach during the period of time. Google Hangout platform was selected for conducting the e-counselling approach. The Platform is similar to Google classroom where the students had used it for the online class during the pandemic. Counsellors and students would be facing each other in Google Hangout during the counselling session.

From the total participants, 30 students ($n= 30$) were randomly placed in each group. Profiles of research participants such as gender, race, age, and personality trait were documented. The same counsellor conducting both approaches. This is to control the extraneous factors as suggested by a study conducted by Maryam et al. (2012).

Participants in both groups were given the Client Satisfaction Inventory – Short Form (CSI-SF) by McMurtry & Hudson (2000) in a post-test to gather knowledge about the clients' satisfaction from their counselling experiences. Data analysis was done using descriptive statistical measurements such as mean, standard deviation, and independent t-test.

RESULTS AND DISCUSSIONS

Demographic

Demographic data in Table 1 showed that the female students made up the majority of participants for both the control (face-to-face approach) and experimental (e-counselling approach) groups. There were 22 (73.3%) female and 8 (26.7%) male students in the control group, while there were 27 (90.0%) female and 3 (10.0%) male students in the experimental group. Gender balance could not be controlled in order to adhere to the counselling ethics, randomized sampling

procedure as well as the walk-in principle in the study procedure. The data is represented in Table 1.

Clients' Satisfaction Level

Clients' satisfaction level was measured using CSI-SF. As shown in Table 2, percentages of clients satisfaction level were specifically calculated and later categorized into four different levels of mean score range, which are highest (80 to 100%), high (60 to 79%), moderate (40 to 59%), and low (1 to 39%) (McMurtry & Hudson, 2000).

Table 1
Demographic data of research participants

Gender	Group	
	Control (Face-to-Face) n=30	Experiment (E-Counselling) n=30
Male	8 (26.7%)	3 (10.0%)
Female	22 (73.3%)	27 (90.0%)

Table 2
Interpretation of clients' satisfaction level mean score

Score (%)	Satisfaction Level	Interpretation
1 to 39	Low	Client is not very satisfied with the service provided
40 to 59	Moderate	Client is less satisfied with the service provided
60 to 79	High	Client is satisfied with the service provided
80 to 100	Highest	Client is very satisfied with the service provided

Out of the 30 respondents involved in the face-to-face counselling session (control group), 6 (20.0%) showed highest satisfaction level, 10 (33.4%) were of high satisfaction, 7 (23.3%) had moderate satisfaction, and the remaining 7 (23.3%) displayed low satisfaction. Meanwhile, in the experimental group, 7 (23.3%) recorded the highest satisfaction, 12 (40.0%) were of high satisfaction, 7 (23.3%) exhibited moderate satisfaction, and the remaining 4 (13.4%) demonstrated low satisfaction towards the e-counselling approach.

From the findings summarized in Table 3, the clients' satisfaction level was slightly higher in the e-counselling group as compared to the face-to-face counselling group. As found in many studies, the major attraction of e-counselling is mainly having the ability to retain autonomy over the counselling session (Cook & Doyle, 2002; Gibson et al., 2016; King et al,

2006; Richards, 2009). Students in this study may feel satisfied with the online sessions conducted due to them having freedom and a greater sense of control over themselves and the counsellor in the online setting as compared to face-to-face counselling setting. The online setting itself is less confrontational, hence as previously mentioned, may lessen students' nervousness and this may make them more genuine over the online sessions (King et al., 2006). In addition to this, students in this study may feel more comfortable to seek assistance from online counsellors in the online setting due to the absence of other students who may be judgmental, therefore reducing a form of stigmatization.

Looking further into the impact of positive attitude towards mental health service, and satisfaction, students may begin online sessions with a positive mind and attitude toward the school's

Table 3
Clients' satisfaction frequency distribution according to their group

Counselling Satisfaction Level	Group	
	Control (Face-to-Face) n=30	Experiment (E-Counselling) n=30
Low	7 (23.3%)	4 (13.4%)
Moderate	7 (23.3%)	7 (23.3%)
High	10 (33.4%)	12 (40.0%)
Highest	6 (20.0%)	7 (23.3%)

counselling service, which may lead to satisfaction (Scott et al., 2009). The efficacy of a counselling session is heavily affected by the proper assignment of issues to its most suitable counselling modality as both online and face-to-face sessions have their respective benefits that can attract students (Finn & Barak, 2010; Glasheen et al., 2016). In this study, students in the e-counselling session may be dealing with issues that can be effectively solved by the online counselling approach, such as family issues, friendship, and other personal matters, therefore resulting in high satisfaction towards the e-counselling method.

Comparatively, the ineffectiveness of face-to-face counselling in handling certain issues that may not be suitable for the approach could be one of the reasons face-to-face clients to feel less satisfied. The slightly low satisfaction towards face-to-face counselling approach could also be attributable to the fact that students participated in this study may already have a biased judgement against, or lack of interest towards the conventional counselling method to begin with (Wong et al., 2018). Additionally, it may be possible that due to the pandemic, clients are uncomfortable to have face-to-face counselling sessions.

The mean differences of clients' satisfaction were analyzed according to the items in CSI-SF by comparing clients' satisfaction mean score of both counselling approaches. The interpretation was done by looking at the satisfaction mean score of each group, and the clients with a higher satisfaction score than their group's

satisfaction mean score were regarded as having a high level of satisfaction. Comparisons of clients' mean satisfaction score and the mean satisfaction score differences of e-counselling and face-to-face counselling methods are tabulated in Table 4.

To sum up from the overall mean differences in Table 4, clients from the e-counselling approach had higher satisfaction score in all the items listed in the CSI-SF as compared to clients of the face-to-face counselling method. The highest positive mean difference was observed on Item 3 and Item 6 with a mean difference of .760 and .560 respectively. The high mean difference between the two counselling approaches in Item 3 indicated that the e-counselling clients believed in the quality of e-counselling service enough for them to recommend it to their acquaintances. Item 6 with the second highest mean difference elicited clients' satisfaction on the unprejudiced characteristics of the service provider as they believed the e-counsellors accepted them for who they were. On the other hand, the only two negative mean differences were spotted on Item 4 (-.070) and Item 5 (-.100). Both Item 4 and Item 5 focused on the competency of counsellors, in which the majority of respondents in both groups believed that the face-to-face counsellors were proficient and their skills were adequate to provide the best possible solution to their current condition.

The data was then analyzed using the independent t-test to determine the statistical differences between both e-counselling

Table 4

Comparison of clients' satisfaction score for e-counselling and face-to-face counselling methods

Item	Approach	Mean	Mean difference
1. Counselor here really care about me	E-counselling	5.670	.370
	Face-to-face	5.300	
2. I am not reluctant to come back here if I need help	E-counselling	5.130	.260
	Face-to-face	4.870	
3. I will recommend the service here to acquaintances	E-counselling	5.730	.760
	Face-to-face	4.970	
4. Counselor here are skillful at their job	E-counselling	5.900	-.070
	Face-to-face	5.970	
5. I get the help I need the most here	E-counselling	5.300	-.100
	Face-to-face	5.400	
6. Counselor here accept me for who I am	E-counselling	6.230	.560
	Face-to-face	5.670	
7. Counselor here understand my real feelings	E-counselling	5.870	.100
	Face-to-face	5.770	
8. I feel that I can communicate and share my problems to the counselor here	E-counselling	5.770	.340
	Face-to-face	5.430	
9. The help that I receive here is much better than I expected	E-counselling	5.600	.400
	Face-to-face	5.200	

and face-to-face counselling methods. The clients' satisfaction mean score towards e-counselling (mean= 51.200; SD= 12.417) was marginally higher than the student satisfaction mean score towards face-to-face counselling (mean= 48.500; SD= 10.400), with mean score difference of 2.700. Although the satisfaction mean score of e-counselling was higher than

the satisfaction mean score of face-to-face counselling, the result of the two-tailed t-test in Table 5 revealed no statistical significance difference between the two approaches (t-value= .920; $p > 0.05$). Thus both counselling methods induced a similar level of satisfaction among the secondary school students.

Table 5

Analysis of independent t test of clients' satisfaction level towards e-counselling and face-to-face counselling

Approach	N	Mean	Mean difference	SD	df	t	sig. p
Face-to-face	30	48.500	2.700	10.400	5.800	.920	.361
E-counselling	30	51.200		12.417			

*p-value <0.05 showed statistical significance

The majority of clients involved in this study was demonstrated to be Malay female students aged between 13 to 15 years old, with the personality trait of introverts. The present study's finding is consistent with a meta-analysis study conducted of over ninety-two past studies by Barak et al. (2008), in which they believed that online counselling offered as much satisfaction as face-to-face counselling as there was no statistical significance observed between the satisfaction level towards both approaches. Looking at another targeted demographics, a study by Zeren (2015) had similar outcomes with this study's findings, whereby majority of the study's participants who were university students, believed that both face-to-face counselling and e-counselling approaches generated a similar level of satisfaction.

These finding however, stand in contrast with a finding by Zainudin & Yusop (2018c) that studied a Malaysian secondary school. It concluded that clients of the e-counselling services perceived a higher level of satisfaction compared to the clients' of the face-to-face counselling. On the other hand, college students in the Rochlen et al. (2004) study that participated in the face-to-

face counselling rated their sessions more favorably compared to e-counselling clients.

The similar satisfaction level towards both approaches could be factored by the client's individual interest. Ali et al. (2005) stated that clients' perception towards counselling was shaped by different needs that are unique to an individual. Students seek e-counselling to discuss personal and sensitive concerns while other students prefer face-to-face counselling to obtain advice on career development (Glasheen et al., 2016). A study by Finn and Barak (2010) also noted that while e-counselling was effective to tackle interpersonal and social issues, face-to-face counselling is more suited over issues such as mental health, abuse, and violence. The strength of face-to-face counselling approach would be that the verbal cues from the clients can be used by the counsellors to identify underlying risks, and it can also be utilized to develop the student's communication skills (Glasheen et al., 2017). On the other hand, e-counselling sessions were convenient in terms of time, cost, and also it provides anonymity protection to those who fear being exposed and stigmatized (Glasheen et al., 2016; Wong et al., 2018).

Both face-to-face counselling method and e-counselling are effective in dealing with certain niche issues and can be used to fill-in the gaps left by each method.

IMPLICATIONS AND RECOMMENDATIONS

The important role of schools should be to cover a variety of aspects pertaining to the overall well-being and development of students. Although the schools in Malaysia and their priority on academic achievement is oftentimes an inseparable stereotypic situation, the schools should also be a place where students can get assistance for their psychosocial development. Sawyer et al. (2012) highlighted that schools' roles were not only to focus on academic achievement, but were also to provide a social environment that was capable to cultivate peer connections, good emotional health, and mental health. During their time in school, students will begin growing not only physically and socially but also in their emotional and cognitive thinking. This will also apply during a pandemic such as the Covid-19 pandemic. It is the responsibility of educators, counsellors and law-makers to provide a stable platform that can nurture youths in all the four aspects of growth, in order for them to build a worthy future, career and a better quality of life.

E-counselling should be implemented side-by-side with face-to-face counselling in Malaysia's secondary school during this pandemic. However, before this implementation, proper guidelines must be drawn to make sure no additional workload after working hours are incurred for the

school counsellors. This is mainly due to that counsellors and therapists are not exempted from the effect of the pandemic. Furthermore, e-counselling can be used as a tool to encourage students who are not seeking help or under quarantine, to come forward. E-counselling helps reduce the risk of exposure to the virus during the counselling session. Counselling services should be made easily accessible and not limited to only face-to-face counselling where the risk of experiencing psychological stress is higher during this pandemic.

Moreover, the school counsellor is a main person to help students to process problems related to emotional, academic, and social. Goal planning is also included in the tasks of a school counsellor. During this pandemic, the quality of the services provided by a school counsellor may differ from the pre-Covid times. E-counselling is leading the service to provide guidance and counselling to students due to the quarantine issues. According to Stephen (2020), the sudden change in the way of providing counselling sessions has put a pressure to the guidance expert. Therefore, the mindset of the counsellors needs to also change to adapt to the new way of working which will help them ensure the quality of their service. In addition, nevertheless, the flexibility to adapt to a new way of working needs training and experience. Counsellors should take this pandemic as an opportunity to update their skills to suit the advancements of modern technology. This proactive and adaptable attitude will help counsellors to reduce their challenges when

using e-counselling for their sessions. When the skill and knowledge of the counsellor has increased, the limitations associated with e-counselling will lessen.

Apart from the counsellors, the Government has an important role in the development and maintenance of the functions of e-counselling. During this pandemic, e-counselling is becoming the main form of counselling and guidance services provided by professional counsellors. To provide good services online, the quality of the internet and the devices available in schools across the country must be upgraded. The increase in the quality of the internet will increase the support of using e-counselling by the counsellors. Improvements to the facilities and online systems for e-counselling might encourage students to use the service. Also, training opportunities and guidelines should be provided by the government to support school counsellors to help them in developing skills for this new technique and reduce their work-related stress during this pandemic. The government can also promote e-counselling more aggressively to the public. This outreach would help to reduce the stigma around the service. When e-counselling becomes common, the stigmatization will reduce within the national community.

Currently, there are insufficient studies surrounding the assessment of the satisfaction levels achieved from face-to-face counselling and e-counselling sessions among school students. This study is important in gaining a better understanding

of the effectiveness of counselling and guidance services provided in Malaysia's secondary schools for students during this pandemic, and it can serve as an indicator for future researchers on the effectiveness of both counselling modalities at schools. The rising cases of mental health problems during the pandemic in Malaysia require a periodic comparison to examine the quality of counselling services provided.

CONCLUSIONS AND LIMITATIONS

As a conclusion, clients in this study believed that both face-to-face and e-counselling services are equally effective. Such finding was due to little statistical difference observed with the independent t-test. Clients also showed a slightly higher level of satisfaction with the e-counselling method as compared to face-to-face counselling. Therefore, the implications of e-counselling during the pandemic should be applicable to schools. However, both counselling methods should be approached with the highest level of ethical professionalism, as the truth of the issue's clients share in an e-counselling platform is of the same value to the client as the face-to-face counselling. Nevertheless, this study has several limitations that need to be taken into account. Firstly, the small sample size in this study cannot be used as the representation of the student clients' satisfaction in Malaysia. The result of the present study may not be replicated in other secondary schools in Malaysia. Comparison studies on the effectiveness of face-to-face and e-counselling in the future should include a bigger sample size, preferably

from several different schools and with more diverse groups of clients. Notably, the sample was taken from a school located in an urbanized area where the online facilities fared much better compared to the rural parts of the country. Therefore, the convenient access to the internet may affect the satisfaction level achieved from the e-counselling approach in this school. Moreover, this study lacks information on previous counselling experiences of the clients, which may or may not affect their current level of satisfaction.

ACKNOWLEDGEMENTS

This is a project under the Putra Grant (IPM: 9651900/2018) awarded by Universiti Putra of Malaysia

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Psychometric Properties of the Multicultural Counselling Competence Training Survey-Revised (MCCTS-R): Application for Counsellor Trainees in Malaysia

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ABSTRACT

The purpose of this study is to examine the reliability and validity of the translated and adapted Multicultural Counselling Competence and Training Survey-Revised (MCCTS-R) for its use in measuring perceived multicultural counselling competence among counsellor trainees in Malaysia. This descriptive-correlational study was conducted on 208 counsellor trainees from local universities. They were chosen through cluster random sampling. The drawing procedure was done using a fishbowl method. At the time of data collection, the counsellor trainees were at the end of their counselling internship in various organisations around Klang Valley and East Malaysia during the study. Based on the factor analysis, the three-factor structure, which was the same as the original version, was confirmed with 20 items retained. For reliability, internal consistency and construct reliability were evaluated and confirmed. The finding showed that internal consistency was $\alpha = .952$ and construct

reliability was .882. In addition, MCCTS-R was found to have good construct validity based on the corrected item-total correlation value, which varied from $r = .533 - .756$. The convergent validity value obtained from the confirmatory factor analysis was .714. Overall, the factor structure, reliability, and validity of the adapted MCCTS-R were all confirmed in this study. The high reliability and good validity indicate that MCCTS-R can successfully be used by counsellor trainees across gender and

ARTICLE INFO

Article history:

Received: 13 November 2020

Accepted: 11 March 2021

Published: 14 April 2021

DOI: <https://doi.org/10.47836/pjssh.29.S1.09>

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ethnicity. The findings can be a starting point for multicultural counselling to gain greater focus from the counselling academia and professionals as it gives a mere reflection of counsellor trainees perceived multicultural counselling competence.

Keywords: Counsellor trainees, multicultural counselling, perceived multicultural counselling competence, psychometric properties

INTRODUCTION

Based on the current population estimates, the Malaysian population has grown stably by 1.1% with an increase from 29.4 million in 2019 to 29.7 million in 2020. The population in Malaysia is currently estimated at 32.7 million with 30 million being citizens and 3 million (one tenth of the population) being non-citizens (Department of Statistics Malaysia, 2020). Among the 30 million citizens, there are three major ethnicities: Malay, Chinese, and Indian, followed by Orang Asli (Malaysian Indigenous) as well as more than 80 minor ethnics groups (i.e. Punjabi, Iban, Kadazan). Multi-ethnic groups in Malaysia are free to practise their mother tongue and dialects, religious beliefs and practices, and customary traditions while at the same time using Bahasa Malaysia as the official language and respecting Islam as the main religion of Malaysia.

Despite ethnicities, religions, and citizenship, humans are all a cultural species that respond and react to emerging stressors associated with the COVID-19 pandemic (Guan et al., 2020). Guan et al. (2020) proposed that identifying an

individual's cultural orientation would help us to understand his or her personal evaluations of stressors and choices in coping strategies. Counsellors are expected to be competent to assist clients without tempering with their cultural orientations. Thus, counsellors need to acquire sufficient culturally related knowledge and awareness.

Multicultural Counselling Competence

A counsellor's acquisition of awareness, knowledge, and skills needed to function effectively in a pluralistic democratic society, and on an organisational/societal level refers to multicultural counselling competence (Sue & Sue, 2015). From the definition, there are three widely known components of multicultural counselling competence, namely awareness, knowledge, and skills. These three components were proposed by Sue et al. (1982) and then endorsed by the Association for Multicultural Counselling and Development (AMCD) as stated in Sue et al. (1992). They were introduced as the components of the Tripartite Model of Multicultural Counselling Competency, which was proposed to provide understanding of multiculturally competent practices as well as a standard in defining counsellors' competency in multicultural counselling (Sue et al., 1992).

A multiculturally-competent counsellor practises counselling ethically (Arredondo & Toporek, 2004). Correspondingly, Subarimaniam et al. (2020) maintained that mastery of multicultural knowledge, awareness, and skills facilitated counsellor

trainees to deal with legal and ethical issues in counselling confidently. Sue and Sue (2015) and Sue et al. (1992) stated the multicultural competent counsellor characteristics: (i) actively inculcate the awareness related to his or her assumption towards human behaviour, value, bias, early notion, and personal limitation; (ii) actively try to understand culturally different clients' worldview without any judgment; and (iii) actively build and practise relevant and sensitive strategies and skills when working with culturally diverse clients. Sue et al. (2007) also mentioned that multicultural competence was aspirational rather than achieved in which it is an active, developmental, and continuous process.

It was then known as the Multidimensional Multicultural Counselling Competence Model after Sue re-proposed the Tripartite Model in 2001. The model was improved for two reasons. The first is to cater with the differences in defining cultural competence (Ridley, et al., 2000). The second is due to the lack of a conceptual framework for organising its multifaceted dimensions (Sue, 2001). Therefore, the improvised model with a more thorough build-up that includes the 3 x 4 x 5 cubic design model, is expected to organise all the dimensions into a meaningful whole, and provide dimensions for practice, education and training, and research.

Ratts et al. (2015) proposed an updated competency model that was referred to as the Multicultural and Social Justice Counselling Competencies (MSJCC). The model was then endorsed by AMCD

and American Counselling Association (ACA) in 2015 (Ratts et al., 2016). The update on the earlier Multicultural Counselling Competencies model by Sue et al. (1992) was done to "...reflect a more inclusive and broader understanding of culture and diversity that encompasses the intersection of identities and to better address the expanding role of professional counsellors to include counselling and social justice advocacy" (Ratts et al., 2016, p. 29). Hook et al. (2013) mentioned that improving understanding and commitment to multicultural counselling and social justice competence was a lifelong process, where MSJCC could be an aspiration for counsellors to practise cultural humility in their work. The MSJCC is expected to facilitate counsellors' overall understanding on their clients as individuals in the context of their environment, especially in working with marginalised clients. The notable models reflect that multicultural counselling competence is such an important tool for counsellors to master in order to benefit the clients to its best.

Importance of Acquiring and Measuring Multicultural Counselling Competence

Multicultural counselling competence has become the focus in multicultural counselling research and is one of the important variables in counsellor preparation programmes. Research on multicultural counselling competence is one of the measures to reflect the impact or effectiveness of multicultural training in counsellor

education programmes (Chappell, 2014; Lee & Khawaja, 2013). In fact, since decades ago, multicultural counselling competence had been emphasised and nurtured to reduce racial and ethnic disparities in mental health treatment (Sue & Sue, 2015; Tao et al., 2015). For instance, in the Malaysian context, Malay counsellor from Peninsular Malaysia needs to take into consideration on the influence of unique sociocultural factors such as weakness in marriage customary law and “bejalai” culture (Panting et al., 2019) when working on teenage pregnancy case in Sarawak, in which the client is a native Sarawak people. If the counsellor is not equipped with proper knowledge, awareness, and skills, the client may prematurely end the counselling session.

In fact, a multiculturally competent counsellor will be able to practice counselling with a lower risk of iatrogenic harm to the clients (Wendt et al., 2015). In another perspective, multiculturally competent counsellors may be able to bridge the service gap as mentioned by Foo et al. (2017) that individual who is in need are less likely to reach out for help. This may be possible by identifying how culture influences the clients help-seeking attitude and customizing the culturally appropriate strategies for the clients (Foo et al., 2017). Therefore, multicultural counselling competence is important for counsellors to work efficiently in societies with multiple representations of cultural groups.

Multiple representations of cultural groups in an organisational or societal

level are due to the visible (i.e. gender and race) and invisible (sexual orientation and value) attributes of culture. Kwan (2008) maintained that social power and privilege statuses of the groups were differentiated based on visible and invisible attributes. Besides, diversity in people with disabilities is also acknowledged as part of multiculturalism (Karim & Hassan, 2019), is an attribute that needs to be considered by counsellors to achieve the unequivocal purpose of multicultural counselling competence. Thus, counsellor trainees and counsellors need to empower multicultural counselling competence to avoid bias when working with clients that are not young, attractive, verbal, intelligent, and successful (YAVIS) (Schofield, 1964).

In addition, acquiring multicultural counselling competence will assist counsellor trainees and counsellors to be careful in applying theories that mostly build up on the samples from the Western, educated, industrialised, rich, and democratic (WEIRD) population of Western industrialised nations such as Europe, North America, Australia, and Israel (Rad et al., 2018). Similarly, counsellor trainees, counsellors, and counselling researchers need to make sure they take into account the importance of culture and context in the way the psychometric instruments are used in their session and research as most instruments in counselling (generally) and multicultural counselling (specifically) research are developed and tested on the WEIRD community.

Furthermore, multicultural counselling competence needs to be studied further

as an effort to clarify and reinforce the precise term used to represent constructs. 'Multicultural counselling competence' and 'perceived multicultural counselling competence' are few of the terms used in multicultural counselling research. Both terms may be used interchangeably; however, each of them encompasses different components of the Tripartite Model of Multicultural Counselling Competence. As stated earlier, Sue et al. (1992) referred to multicultural counselling competence as the three components that included beliefs and attitudes, knowledge, and skills of multicultural counselling. Nevertheless, Constantine and Ladany (2001) reconceptualised multicultural counselling competence into six dimensions of multicultural competence. They maintained that only awareness and knowledge components were measured by self-report multicultural counselling competence measures. Therefore, the 'self-perceived multicultural counselling competence' was introduced. The multicultural skill component is attributed to self-efficacy (Sheu & Lent, 2007), where Worthington et al. (2007) claimed that the skill component should be measured through observer-rated measurement.

Existing Instruments

Based on quite a number of existing instruments from the previous literature, they can be categorised into three categories such as self-report, observer-rated, and portfolio. The outcome of self-report instruments is the perceived multicultural

counselling competence. There are two different outcomes of observer-rated instruments based on the type of measurement administered. If supervisors or clients rating on a questionnaire or checklist is utilized, the outcome refers to the observed multicultural counselling competence. Meanwhile, the supervisors or expert's assessment on multicultural case conceptualisation ability refers to demonstrated multicultural counselling competence. Portfolio is a collection of works that explicate an individual's efforts, progress, and achievements in multicultural counselling competence (Constantine & Ladany, 2001). The outcome of assessment through portfolio is also known as the demonstrated multicultural counselling competence.

The well-developed instruments are the self-report forms. The self-report instruments are the most used assessment format in measuring multicultural counselling competence. This category of instruments is used by the subject (e.g. counsellor trainees, counsellors) to assess their own competence. There are a number of self-report formats of multicultural counselling competence assessment instruments, such as: (a) Multicultural Awareness, Knowledge, and Skills Survey (MAKSS) (D'Andrea et al., 1991); (b) Multicultural Counselling Inventory (MCI) (Sodowsky et al., 1994); (c) Multicultural Counselling Knowledge and Awareness Scale (MCKAS) (Ponterotto et al., 2000); and (d) Multicultural Counselling Competence Survey and Training-Revised (MCCTS-R) (Holcomb-McCoy & Day-Vines, 2004).

In a period of ten years, MCCTS-R is the most frequent instrument used by researchers to measure perceived multicultural counselling competence. For instance, MCCTS-R was used by Williams (2010), Guzman et al. (2013), Barden and Greene (2015), and Rodgers and Furcron (2019). This is due to its high reliability where Holcomb-McCoy and Day-Vines (2004) reported Cronbach's alpha of .97, .95, and .85 for multicultural terminology, multicultural knowledge, and multicultural awareness. In more recent literature, Guzman et al. (2013) reported a high value of Cronbach's alpha of .97. This is followed by Barden and Greene (2015) who also reported high Cronbach's alpha of .95 for the full scale and adequate coefficients for the subscales, which ranged between .63 and .96 (multicultural terminology = .96, multicultural knowledge = .95, and multicultural awareness = .63).

Literature Review of Multicultural Counselling Competence in Malaysia

A theoretical approach based on the Malaysian culture and traditions is needed so that effective counselling practices can be provided to suit the various needs of Malaysian clients (Suradi, 2004; Karim & Hassan 2019). This is in line with Mansor (2010) and Abdul Malek et al. (2013) who mentioned that to address counselling approaches and practices in Malaysia, its culture and tradition needed to be understood. See and Ng (2010) maintained that multicultural approaches needed to be incorporated together with

other approaches such as family therapy and developmental approaches into counsellors' practice techniques. They believed that counselling in Malaysia would continuously grow by incorporating various therapeutic approaches where multicultural counselling training is assumed to be a greater focus in the country. These are due to what they observed from the lack of a coherent theoretical framework for the practice of school counselling that culturally fits the clients' needs. Malaysia's cultural diversity is represented by the diversity of schools where this might reflect the Malaysian counsellors' counselling situation as a whole.

Since the aim of multicultural training is to develop awareness, knowledge, and skills for counsellors to work efficiently with diverse clients, scholars suggested that the effectiveness of the training can be done through measuring the multicultural counselling competence level of counsellor trainees. Therefore, several attempts had been executed by Dagang et al. (2013), Aga Mohd Jaladin (2017), and Harun et al. (2017). The findings showed that their respondents perceived themselves as having a moderate level of multicultural counselling competence. In fact, Aga Mohd Jaladin (2017) found that they perceived themselves as having a low level of multicultural skills. She argued that perhaps the multicultural training provided still faced inadequacy issues.

In terms of instruments, MCI is one of the instruments that are usually used by local researchers to measure perceived

multicultural counselling competence. Most researchers translated and adapted the preferred existing instruments before reporting their reliability in the Malaysian context. For instance, Dagang et al. (2013) reported the Cronbach's alpha values for MCI full scale and its subscales, where the Cronbach's alpha for full scale was .89 and ranged between .72 and .84 for the subscales. Harun et al. (2017) used MCCTS-R that was translated through a team translation method by a team of researchers and reported a Cronbach's alpha value of .95.

Other than translating and adapting the existing instruments, there are also initiatives to produce Malaysian designated instruments to measure multicultural counselling competence. For instance, Amat et al. (2013) developed an instrument to measure school counselling teachers' multicultural counselling competence. Three dimensions of multicultural counselling competencies with 28 items were formed where they were validated by experts and counsellors. The three dimensions reflected Sue, Arredondo, and McDavis (1992) model components. However, the reliability and validity of the instrument were not mentioned.

This study chose MCCTS-R to undergo back-to-back translation and expert validation process because the constructs in MCCTS-R, which are multicultural terminology, multicultural knowledge, and multicultural awareness, precisely reflect the conceptual and operational definitions of 'perceived multicultural counselling competence' as the term used

in the actual study. Moreover, considering the counsellor trainees as the respondents, MCCTS-R is the right choice as it is a revised version of MCCT that aims to measure counsellor trainees' self-perceived multicultural counselling competence and the effectiveness of the multicultural training they had received. Nevertheless, MCCTS-R was developed and previously tested on the WEIRD populations. Therefore, to make sure that MCCTS-R will be able to be used in a non-WEIRD context and to provide precise findings of Malaysian counsellor trainees' multicultural counselling competence level, the translated and adapted MCCTS-R's psychometric properties such as factor structure, reliability, and validity need to be examined.

METHODS

Participants

This descriptive-correlational study was conducted among counsellor trainees from 6 local universities which had undergraduate counselling programs. They were at the end of their counselling internship training in various organisations such as secondary schools, higher education institutions, and government agencies. The counsellor trainees had enrolled in a single multicultural counselling course during their preparation program. The course syllabus on multicultural counselling at the selected university is standardized according to counsellor training's standard and qualification endorsed by the Malaysian Board of Counsellor. The 208 counsellor trainees were chosen through cluster random

sampling. At the end, a number of 200 responses were eligible for data analysis. Table 1 presents the distribution of 200 counsellor trainees. In terms of age, gender, ethnicity, and religion, a majority of the

counsellor trainees were between 22 to 24 years old (n= 159, 79.5%), female (n= 159, 79.5%), Malay (n= 154, 77.0%), and Muslim (= 167, 83.5%).

Table 1
Distribution of respondent's demographic

Demographic variables	Categories	Frequency	Percentage
Age	22-24	159	79.5
	25-27	36	18.0
	28-30	5	2.5
Gender	Male	41	20.5
	Female	159	79.5
Ethnicity	Malay	154	77.0
	Non-Malay	46	33.0
	Muslim	167	83.5
Religion	Non - Muslim	32	16.0
	No Religion	1	0.5

Instruments

Data were collected using the Malay-translated and adapted version of the Multicultural Counselling Competence and Training Survey-Revised (MCCTS-R). The original MCCTS-R is a revised version of Multicultural Counselling Competence and Training Survey (MCCTS). The MCCTS was developed by Holcomb-McCoy and Myers in 1999 to assess counsellors perceived multicultural counselling competence based on the AMCD multicultural competencies. However, Holcomb-McCoy and Day-Vines (2004) had revised MCCTS so that it would measure counselling teachers' multicultural

counselling competence. For reference, Appendix 1 contains the sample items of English and Malay translated MCCTS-R's confirmed items.

MCCTS-R consists of three components: i) multicultural terminology (4 items); ii) multicultural knowledge (20 items); and iii) multicultural awareness (8 items), totalling to 32 items (Holcomb-McCoy & Day-Vines, 2004). A four-point Likert scale was applied in rating each item (1 = Not Competent, 2 = Somewhat Competent, 3 = Competent, and 4 = Very Competent). Approximately, the respondents would gain a score between the ranges of 32 to 128. The total score of

MCCTS-R gained from the summation of every item rating explained the respondents' level of perceived multicultural counselling competence. All of the items were positively stated.

Barden and Greene (2015) reported the validity of MCCTS-R resulted from intercorrelations between the subscales (.43 – .59) and between the subscales and full scale (.62 – .95). Holcomb-McCoy and Day-Vines (2004) reported the reliability of .97 for multicultural terminology, .95 for multicultural knowledge, and .85 for multicultural awareness. In addition, there was a reliability of .95 for full MCCTS-R. Based on the reported values, MCCTS-R reflected the characters as a prominent instrument in measuring perceived multicultural counselling competence for this study.

Data on the respondents' age, gender, ethnicity, and religion were obtained through a demographic sheet that was attached at the last page of the questionnaire.

Procedure

First of all, the researcher was granted permission by the original author to adapt and adopt MCCTS-R. The back-to-back translation method was done according to Noah's (2005) suggestion. He suggested for the translators to be appointed based on their expertise in counselling and high proficiency in English. MCCTS-R was also pre-tested by a number of counsellor trainees before it was validated by five expert panels. Expert validation is needed in order to guarantee content clarity (Kline,

2011). Lee Abdullah and Leow (2017) also maintained that validation by experts would aid to ensure content suitability and consistency with the aim of the study.

The validated MCCTS-R then underwent the exploratory factor analysis (EFA), which is a process where data are explored to produce information about the numbers of factors that are required to represent the data. EFA is usually used during the early stages of research to gather information about the interrelationships among a set of variables (Gan et al. 2012; Nasab et al., 2015; Sahranavard & Hassan, 2015). In the pilot study, EFA was conducted using the principal component analysis (PCA). Table 2 presents the result of the Kaiser Meyer Olkin (KMO) test and Bartlett's Test of Sphericity. It can be concluded that MCCTS-R met the requirements for the implementation of PCA, in which $KMO = .804$, exceeding the recommended value of .60 (Kaiser, 1974). Meanwhile, the Bartlett's Test of Sphericity (Bartlett, 1954) reached statistical significance ($sig. = .000$), supporting the factorability of the correlation matrix.

PCA determines the factors accounting for the total variance of the specific construct. The factor analysis revealed a three-factor with eigenvalues above 1.0, which accounted for 61.68% of the total variance. Tabachnick and Fidell (2014) recommended a factor loading greater than .30 as acceptable. The results indicated that the factor loadings ranged from .457 to .870, which were acceptable and sufficient. Based on the results, factor 1 consisted of

17 items, factor 2 comprised 11 items, and factor 3 included 4 items. Table 3 presents the distribution of the 32 items.

As explained earlier, 208 counsellor trainees were recruited through cluster random sampling. The instruments were mailed to the respondents who were at the

end of their counselling internship training. This study consumed a five-week duration to be accomplished and a total of 205 questionnaires were returned where the final 200 responses were eligible for data analysis.

Table 2

KMO and bartlett's test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.	.804
	Approx. Chi-Square
	1538.928
Bartlett's Test of Sphericity	df
	496
	Sig.
	.000

Table 3

The 3-factor structure and distribution of 32 items

Items	Factor			Items	Factor		
	1	2	3		1	2	3
mcc1		.457		mcc17		.606	
mcc2		.519		mcc18	.615		
mcc3		.522		mcc19	.749		
mcc4	.556			mcc20	.614		
mcc5		.667		mcc21	.633		
mcc6		.679		mcc22	.668		
mcc7		.711		mcc23	.702		
mcc8	.533			mcc24	.767		
mcc9			.564	mcc25	.601		
mcc10			.845	mcc26	.760		
mcc11			.857	mcc27	.720		
mcc12			.870	mcc28	.542		
mcc13		.546		mcc29	.688		
mcc14		.586		mcc30	.690		
mcc15		.648		mcc31	.529		
mcc16		.648		mcc32	.644		

Note. Extraction Method: Principal Component Analysis.
Rotation Method: Varimax with Kaiser Normalization.^a

Data Analysis

The specific aims of this study were: (1) to confirm the factor structure of the translated MCCTS-R; (2) to evaluate the reliability of the translated MCCTS-R; (3) to investigate the validity of MCCTS-R; and (4) to identify the descriptive statistics of MCCTS-R. The data were analysed using SPSS 25 and AMOS 23 computer programmes based on the 200 usable responses. The significance level of .05 was set for all the analyses.

The hypothesised factor structure model was tested by the confirmatory factor analysis (CFA) using AMOS 23. The goodness-of-fit index (GFI), the comparative fit index (CFI), the incremental fit index (IFI), and the Root Mean Square Error of Approximation (RMSEA) are the four common fit indices used to determine model fit (Gan et al., 2012; McDonald & Ho, 2002; Nasab et al., 2015; Sahranavard & Hassan, 2015). To provide adequate evidence of model fit, a model shall fulfil the requirement of at least three fit indices (Gan et al., 2012; Hair et al., 2006; Nasab et al., 2015; Sahranavard & Hassan, 2015). In addition, Hair et al. (2006) and Iacobucci (2010) suggested that the Chi Square value must be reported together with at least one absolute index (i.e. RMSEA) and one incremental index (i.e. CFI). Therefore, the Chi-Square/df, CFI, Tucker–Lewis index (TLI), and RMSEA were selected for this study with the word of caution from Hu and Bentler (1998), where a model may still fit the data, although a couple of the fit indices presented a bad fit.

The Cronbach's Alpha with 95% confidence interval, together with the corrected item-total correlation, and the Cronbach's Alpha if the item was deleted for each of the items were analysed in order to evaluate reliability (internal consistency). Descriptive statistics (percentage, skewness, kurtosis, mean, and standard deviation) were calculated for all MCCTS-R factors.

Then, the convergent validity was measured through factor loading and Average Variance Extracted (AVE). For a measurement to be valid, the cut-off value for factor loading should be .50 or higher, where at a minimum, all factors should be statistically significant (Gan et al., 2012; Hair et al., 2006; Nasab et al., 2015; Sahranavard & Hassan, 2015).

FINDINGS

The Three-Factor Structure

A confirmatory factor analysis (CFA) was performed using a hypothetical model with three factors as generated from EFA. As shown in Figure 1 the fit index was [$\chi^2(461) = 1283.265, p = .000, \chi^2/df = 2.784, CFI = .834, TLI = .821, RMSEA = .095$]. None of the fit indices achieved at least .85 and RMSEA was smaller than the cut-off point of .100 (Awang, Hui, & Zainuddin, 2018). CFA proposes links or correlations between the observed indicator variables and the underlying latent variables that they are designed to measure; then, it tests them against the data to 'confirm' the proposed factorial structure (Wang & Wang, 2012). In this procedure, CFA eliminates the need

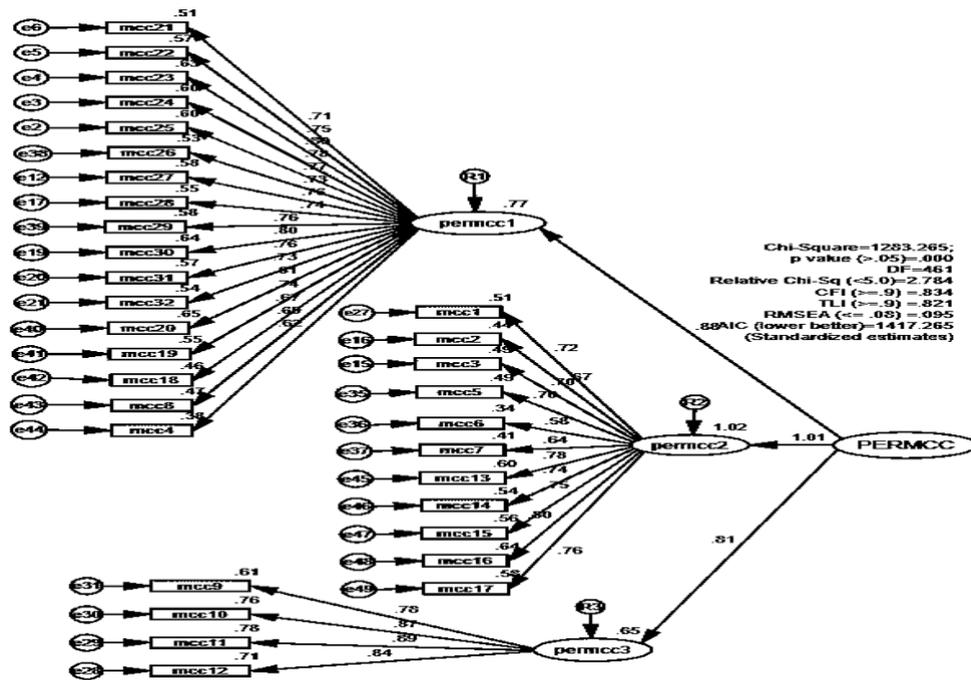


Figure 1. CFA model of original MCCTS-R for total sample

to summate scales and allows relationships between the constructs to be automatically corrected for the amount of error variance that exists in the constructs' measures.

As a result, Figure 2 presents the second order CFA model, which indicated that 20 items of three factors were retained because of their satisfactory factor loading that ranged from .628 to .888. The other 12 items were eliminated from the construct due to large Modification Indices (MI). The result showed that the fit index was [$\chi^2(167) = 378.479, p = .000, \chi^2/df = 2.266, CFI = .923, TLI = .912, RMSEA = .080$]. Based on the result, all fit indices achieved .85 and RMSEA was smaller than the cut-off point of .100 (Awang et al., 2018). The values obtained were generally within a permissible range where these reflected the

same three factors as in the original version. Therefore, the first hypothesised model achieved a good overall fit.

The second model resulted in fair fit indices and statistically significant factor loadings, both for the total sample and for the sub-samples divided by the variables of gender and ethnicity. Testing the gender invariance of the adapted model by multigroup analysis across gender with freely estimated factor loadings demonstrated a good fit to the data [$\chi^2(334) = 671.472, p = .000, \chi^2/df = 2.010, CFI = .880, RMSEA = .070$]. The same can be said for model invariance regarding ethnicity, freely estimated factor loadings also demonstrated an excellent fit to the data [$\chi^2(334) = 756.442, p = .000, \chi^2/df = 2.265, CFI = .859, RMSEA = .080$].

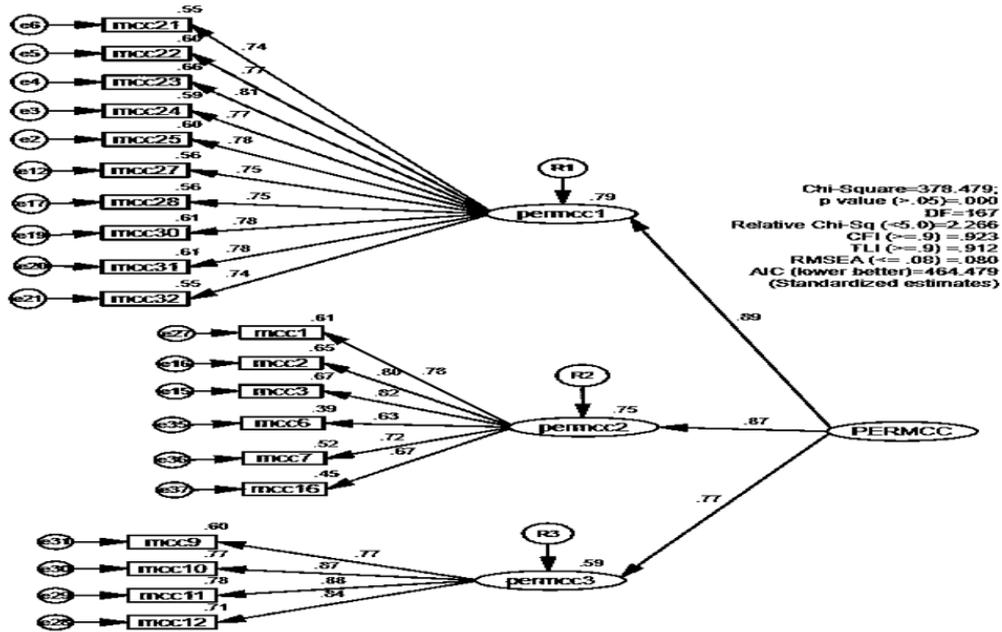


Figure 2. CFA model of revised MCCTS-R for total sample

Reliability

Internal Consistency Reliability. The finding showed that the total MCCTS-R instrument had high internal consistency with Cronbach’s alpha coefficient value, $\alpha = .952$ (Table 4). Internal consistency values of all factors were relatively high where they ranged from .874 to .935.

Construct Reliability. Construct reliability refers to the extent to which the indicator presents the measured latent construct (Hair et al., 2006). It is gained by computing the squared sum of factor loadings for each construct and the sum of the error variance terms for a construct. The reliability with a value of .70 or higher is considered as a good reliability. MCCTS-R gained a satisfactory

Table 4
Internal consistency of MCCTS-R

Factor	No. of Item after CFA	Alpha Cronbach (α)
1	10	.935
2	6	.874
3	4	.907
Total	20	.952

reliability with CR = .882, which meant it demonstrated a highly significant correlation between items of the constructs. High construct reliability indicates that the measures consistently represent the same latent (Hair et al. 2006).

Validity

Construct Validity. Construct validity is gained from the corrected item-total correlation as shown in Table 5 which varied

from $r = .533 - .756$. According to Pallant (2020), only the items with a value more than .30 should be retained. Therefore, all items were retained.

Convergent Validity. Convergent validity refers to the items of indicators of a specific construct that should converge or share a high proportion of variance in common (Hair et al., 2006). Besides construct reliability, CFA also allows for convergent validity testing. It can be measured through

Table 5
Corrected item-total correlation and alpha cronbach if item deleted of 20 items

Item	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
mcc1	.685	.949
mcc2	.637	.950
mcc3	.683	.949
mcc6	.533	.951
mcc7	.613	.950
mcc16	.720	.948
mcc9	.689	.949
mcc10	.679	.949
mcc11	.673	.949
mcc12	.660	.949
mcc21	.709	.948
mcc22	.723	.948
mcc23	.756	.948
mcc24	.701	.949
mcc25	.717	.948
mcc27	.707	.949
mcc28	.663	.949
mcc30	.723	.948
mcc31	.748	.948
mcc32	.697	.949

factor loading and AVE. For a measurement to be valid, the cut-off value for factor loading should be above .40 (Douka et al., 2009). However, the standardised loading estimates should be .50 or higher where at a minimum, all factors should be statistically significant (Hair et al., 2006). The results of CFA showed that the factor loadings for each observed item was higher than .50 and AVE met the criterion of .50 (AVE = .714). Therefore, convergent validity was achieved for MCCTS-R.

Descriptive Statistics

Based on skewness and kurtosis reported in Table 6, the items were normally distributed

as the values of skewness and kurtosis were within ± 2.00 and ± 7.00 . The mean ranged from 2.425 to 2.719 and standard deviation ranged from .499 to .724. The mean that cumulated self-perceived multicultural competence scores was computed as a mean score from 1 to 4 (the scale used a 4-point response format). The computed means were categorized into three levels which are low (1.00 – 1.99), moderate (2.00 – 2.99), and high (3.00 – 4.00). Thus, the counsellor trainees' overall level of self-perceived multicultural competence was at a moderate level.

Table 6

Descriptive statistics of MCCTS-R

Item/Factor	Mean	Std. Deviation	Skewness	Kurtosis
mcc21	2.595	.724	-.015	-.264
mcc22	2.580	.683	.090	-.252
mcc23	2.425	.705	.139	-.171
mcc24	2.442	.734	.009	-.265
mcc25	2.500	.680	.339	-.199
mcc27	2.485	.657	.270	-.178
mcc28	2.520	.694	.246	-.238
mcc30	2.425	.740	.186	-.221
mcc31	2.540	.693	-.008	-.208
mcc32	2.460	.715	-.025	-.244
1	2.497	.558	.088	.176
mcc1	2.555	.735	.000	-.280
mcc2	2.680	.671	.177	-.427
mcc3	2.690	.719	-.116	-.203

Table 6 (Continued)

Item/Factor	Mean	Std. Deviation	Skewness	Kurtosis
mcc6	2.495	.763	-.086	-.343
mcc7	2.719	.619	.146	-.428
mcc16	2.530	.701	.069	-.229
2	2.611	.549	.234	-.242
mcc9	2.470	.708	.236	-.186
mcc10	2.583	.674	.340	-.362
mcc11	2.620	.646	.221	-.385
3	2.563	.591	.276	-.060
Total	2.557	.499	.346	-.101

DISCUSSION

This study aimed to examine the psychometric properties of MCCTS-R in terms of its factor structure, reliability, and validity within the cultural context of Malaysia. There are two justifications of this examination. Firstly, since MCCTS-R was developed on the WEIRD context, this new adapted MCCTS-R can be more useful to be used in other contexts, where in this study, it is the non-WEIRD context. Secondly, MCCTS-R was developed in 2004 and was previously used in 2019 (still used in the Western context). Therefore, through the examination of this scale, the more time-relevant MCCTS-R is available to be used by contemporary researchers. The findings showed that the hypothesised structure of MCCTS-R was confirmed through CFA with satisfactory factor loading and good fit. This finding supports the original paper, which Holcomb-McCoy and Day-Vines (2004) reported a three-factor structure of MCCTS-R. There were limited published

evidences regarding the MCCTS-R factor structure on the sample of counsellor trainees, except from the original paper by Holcomb-McCoy (2004).

Besides the focused-on evaluation of the hypothesised structure of MCCTS-R, this study also examined the invariance of the adapted model across gender and ethnicity on a sample of Malaysian counsellor trainees. Based on the result, the tested three-factor structure of MCCTS-R was confirmed by CFA on the total sample and two sub-samples (e.g. gender and ethnicity). This meant that MCCTS-R was invariant across gender and ethnic groups. The MCCTS-R was conceptualised similarly by both male and female as well Malay and non-Malay counsellor trainees. Consequently, this study has confirmed MCCTS-R's factor structure in the context of Malaysia and this may be the beginning for MCCTS-R to be used confidently with local counsellor trainees.

Hassan et al. (2008) maintained that "A psychometrically sound instrument is the one that provides evidence of high

reliability and validity (p.103)". Thus, evaluating the reliability and validity of MCCTS-R to be used by counsellor trainees in Malaysia has been an important purpose of the study. This study found that the adapted and translated MCCTS-R produced high internal consistency reliability with a Cronbach's alpha value of .952. The internal consistency reliability for each factor ranged from .874 to .935. Based on the Cronbach's alpha values obtained, it proved that the MCCTS-R instrument had high internal consistency. Pallant (2020) stated that if the reliability coefficient of an instrument was above .7, then it had a good reliability. Good reliability indicate that the instrument shows high consistency of the scores obtained from one administration of an instrument to another (Fraenkel et al., 2015). Reliability of an instrument is often evaluated by its internal consistency value, which is based on the coefficient alpha.

In addition, this study investigated the construct reliability in making sure the revised MCCTS-R had stable consistency. According to Hair et al. (2006), construct reliability refers to the degree to which the construct indicators represent the latent construct. Hair et al. (2006) also maintained that high construct reliability reflected good internal consistency. The value between .60 and .70 may be acceptable. Meanwhile, the value of .70 or higher suggests good reliability. In this study, findings from CFA showed that the construct reliability was high with CR = .882. This implicated that MCCTS-R's items were all consistently representing the same latent construct.

Validity refers to the extent to which a concept is accurately measured (Heale & Twycross, 2015). In educational and social research, construct validity is commonly used for instrument validity measurement (Noah, 2005). Construct validity is reflected by the corrected item-total correlation where the correlation coefficient is an indication of the degree to which each item correlates with the total scores. The correlation coefficient that fits the expected pattern contributes evidence of construct validity (Kimberlin & Winterstein, 2008). In this study, MCCTS-R exhibited high construct validity where all items of the MCCTS-R instrument had high values that were at least and more than .300 (Pallant, 2020). The high construct validity reflected MCCTS-R's ability to measure the theoretical construct that it is intended to measure.

Another form of validity measured in this study is the convergent validity. The convergent validity was represented by the factor loading and AVE. A significant loading could still be fairly weak in strength. Thus, based on a good rule of thumb, the standardised loading estimates should be .50 or higher. However, for a measurement to be valid, the cut-off value for factor loading should not be less than .40. (Douka et al., 2009). Another indicator for convergent validity is AVE. AVE is computed as the total of all standardised factor loadings (squared multiple correlations) divided by the number of items. In other words, it is the average squared factor loading. According to Fornell and Lacker (1981), $AVE > 0.5$ reflects high convergent validity. As in this

study, the convergent validity was .714, which indicated uni-dimensionality of the MCCTS-R model.

In total, the descriptive analysis showed that counsellor trainees perceived themselves as acquiring a moderate level of self-perceived multicultural counselling competence. This finding was consistent with the findings from previous studies even though the instrument and the samples were different (Aga Mohd Jaladin, 2017; Dagang et al., 2013; Harun, Kadir, & Noah, 2017). Dagang et al. (2013) used MCI and conducted her study on professional counsellors, whereby it was found that professional counsellors perceived themselves as moderately competent in multicultural counselling. Aga Mohd Jaladin (2017) who used a specifically designated instrument, also conducted her study involving professional counsellors. Findings from her study showed that professional counsellors perceived themselves to possess a moderate level of multicultural counselling competence. Harun et al. (2017) who also used MCCTS-R reported a similar level of multicultural counselling competence for the sample of school counsellors.

Regardless of the instrument used and sample involved, all studies reported a similar level of self-perceived multicultural counselling competence. Ideally and logically, professional counsellors and school counsellors should score higher as they have more experience working with diverse clients. This situation intrigues the question of how can two different samples with different instruments possibly

scored themselves a similar level of self-perceived multicultural counselling competence. Is it related to the psychometric properties of the instruments? Or is it due to the lack of multicultural training in the continuous professional development program? Nevertheless, the similar level of self-perceived multicultural counselling competence between counsellor trainees and experienced counsellors may be due to the aspirational nature of multicultural counselling competence which it is an active, developmental, and on-going process (Hook et al., 2013; Sue et al., 2007). However, a longitudinal study would be a great work for future researchers to contribute more information regarding this matter. All in all, these findings revealed that the items in MCCTS-R are able to capture perceived multicultural counselling competence in the realm of Malaysia's multicultural training syllabus as well as valid to be answered by counsellor trainees.

CONCLUSION

The effort to reinforce multicultural counselling competence in multicultural training either in counsellor preparation programmes or continuous professional development activities could be strengthened. The right and maximum exposure and training need to be infused and structured carefully so that multicultural counselling competence can be enhanced. This study has provided evidence of MCCTS-R's usability to measure perceived multicultural counselling competence for counsellor trainees in Malaysia by confirming its factor

structure, reliability, and validity. Based on these results, MCCTS-R is appropriate to be used in related research later. For further exploration on MCCTS-R's psychometric properties, future studies may be conducted by involving different samples and contexts.

ACKNOWLEDGEMENT

We would like to acknowledge all those who were involved in this research.

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Appendix: Sample Items

Item	Statement
mcc1	Discuss my ethnic/cultural heritage. <i>Berbincang tentang warisan etnik saya.</i>
mcc2	Realize how my cultural background and experience had influenced my attitude on the psychological process. <i>Sedar tentang latar belakang dan pengalaman budaya mempengaruhi sikap terhadap proses psikologikal.</i>
mcc3	Discuss how my culture has influenced the way I think. <i>Berbincang tentang pengaruh budaya ke atas cara saya berfikir.</i>
mcc6	Express my acceptance nonverbally to the client who is of a different culture. <i>Mempamerkan penerimaan bukan lisan terhadap klien berbeza budaya.</i>
mcc7	Discuss my family views on codes-of-conduct. <i>Berbincang tentang pandangan keluarga saya berkaitan tatakelakuan.</i>
mcc9	Defining racism. <i>Mentakrif istilah perkauman.</i>
mcc10	Defining prejudice. <i>Mentakrif istilah prejudis.</i>
mcc11	Defining discrimination. <i>Mentakrif istilah diskriminasi.</i>
mcc12	Defining stereotype. <i>Mentakrif istilah stereotaip.</i>
mcc16	Giving examples of how stereotypical beliefs impact the counselling relationship. <i>Memberi contoh berkaitan impak kepercayaan stereotaip ke atas hubungan kaunseling.</i>
mcc21	Discuss how culture affects a client's vocational choices. <i>Berbincang tentang kesan budaya ke atas pilihan kerjaya klien.</i>
mcc22	Discuss how culture affects the clients' help-seeking behaviours. <i>Berbincang tentang kesan budaya ke atas tingkah laku klien dalam mendapatkan bantuan.</i>
mcc23	Discuss how culture affects the manifestations of psychological disorders. <i>Berbincang tentang kesan budaya ke atas simptom kecelaruan psikologi.</i>

mcc24	<p>Explain the appropriateness of a counselling approach for a specific group of people.</p> <p><i>Menghuraikan kesesuaian suatu pendekatan kaunseling bagi suatu kelompok individu yang spesifik.</i></p>
mcc25	<p>Explain how factors such as poverty and powerlessness have influenced the current conditions of at least two ethnic groups.</p> <p><i>Menerangkan pengaruh faktor seperti kemiskinan dan ketiadaan kuasa ke atas keadaan semasa sekurang-kurangnya bagi dua kelompok etnik.</i></p>
mcc27	<p>Discuss how the counselling process may conflict with cultural values of at least two ethnic groups.</p> <p><i>Berbincang tentang percanggahan antara proses kaunseling dengan nilai budaya sekurang-kurangnya bagi dua kelompok etnik.</i></p>
mcc28	<p>List at least three barriers that prevent ethnic minority clients from using counselling services.</p> <p><i>Menyenaraikan sekurang-kurangnya tiga halangan yang membatasi klien dari menggunakan perkhidmatan kaunseling.</i></p>
mcc30	<p>Discuss family counselling from a cultural/ethnic perspective.</p> <p><i>Berbincang tentang kaunseling keluarga dari perspektif budaya.</i></p>
mcc31	<p>Anticipate when my helping style is inappropriate for a culturally different client.</p> <p><i>Menjangkakan ketidaksesuaian gaya menolong saya bagi klien berbeza budaya.</i></p>
mcc32	<p>Assist clients determine whether a problem stems from racism or biases in others.</p> <p><i>Membantu klien menentukan samada suatu masalah berpunca dari sifat perkauman atau ketidakadilan.</i></p>



Relationships between Burnout, Resilience, and Self-Care among Marriage and Family Counsellors in Malaysia

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ABSTRACT

The psychological impact on marriage and family counsellors during the outbreak of COVID-19 pandemic is an important deliberation. This study aimed to examine the relationships between burnout, resilience, and self-care among marriage and family counsellors in Malaysia. A total of 96 marriage and family counsellors in Malaysia were selected by using simple random sampling technique to participate in the present study. Data were collected by using three self-report instruments to measure the burnout, resilience and self-care. The findings demonstrated significant relationships between the constructs in which burnout and resilience as well as burnout and self-care were negatively correlated. Self-care and resilience were positively correlated. Multiple regression analysis revealed that burnout could not be significantly predicted by self-care and resilience. Findings of the study implied that emphasis must be given to burnout, resilience, and self-care and among marriage and family counsellors to enhance their personal and professional development.

Keywords: Burnout, family counsellors, resilience, self-care

ARTICLE INFO

Article history:

Received: 13 November 2020

Accepted: 11 March 2021

Published: 14 April 2021

DOI: <https://doi.org/10.47836/pjssh.29.S1.10>

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INTRODUCTION

Since the outbreak of COVID-19 pandemic, the world has been facing unprecedented challenges especially among the healthcare workers (Heath et al., 2020). In Malaysia, there is a noticeable impact of the pandemic on the skyrocketed increase in the needs of getting help during the pandemic. According to Arumugam (2020), the Ministry of Women, Family and Community

Development (KPWKM) has reported that the calls to Talian Kasih hotline, a hotline that provides psychological help and support has increased by 57 per cent (or 1,893 calls). The calls were mainly from women who were in distress due to financial constraints, marital problems and domestic violence when the Movement Control Order (MCO) was introduced to prevent the spread of the pandemic.

Even though the demand on mental healthcare is overwhelming, there are very limited numbers of competent counsellors to deal with people with family issues. As of 31st July 2020, out of the total 9,243 registered counsellors in Malaysia, there were only 1,605 of them, who were specialized to conduct marriage and family counselling. Thus, only 17.3 per cent of the registered counsellors are available to deal with family issues among clients in Malaysia (Ministry of Women, Family and Community Development, 2020).

Marriage and family counselling is an essential component in the counselling field in Malaysia (Ahmad et al., 2018). The importance of this counselling approach is evident as the Malaysian Board of Counsellors has outlined the competence and training needed by a marriage and family counsellor in Malaysia (Lembaga Kaunselor Malaysia, 2015). More competent marriage and family counsellors are needed to provide counselling services to individuals with family issues.

As a result of dealing with overloaded family issues that are commonly more complicated, the counsellors are subjected

to demanding conditions that test their maturity, energy, and competence (Sriram & Duggal, 2016). In work, the counsellors have to perform a variety of duties which is physically, mentally, and emotionally taxing. This situation has exerted higher stress level exposure to the counsellors. Another factor that can increase the stress level of the counsellors is the counsellors' role in the counselling process. Wampold (2001) underscored the crucial role of counsellors as compared with the methods they used to determine the counselling outcome. This means any negative impacts from clients on the counsellors which are not properly addressed would exert a greater risk of succumbing to a high degree of work burnout among the counsellors.

In addition, Puig et al. (2012) and Eddington (2006) opined that counsellors, more specifically marriage and family counsellors, suffered from burnout due to work requirements. Burnout is caused when a counsellor places effort that is not within his or her ability in work circumstances combined with a belief in self-doubt about personal resources, which will influence the quality of the counselling service (Lent & Schwartz, 2012; Slater & Lambie, 2011).

Symptoms of burnout among marriage and family counsellors are shown when the counsellors suffer from unaddressed mental distress. It is necessary for the counsellors to resolve burnout in order to prevent possible harm to clients (Merriman, 2017). Based on previous studies, burnout among counsellors are related to a few factors such as the counsellors' experience (Wardle &

Mayorga, 2016), perfectionism (Moate et al., 2016), high level emotional empathy (Gutierrez & Mullen, 2016), and the age of the counsellors (Rosenberg & Pace, 2006).

Protective Factors of Burnout

Burnout among marriage and family counsellors must be properly addressed. In order to resolve burnout, resilience is a vital aspect that has to be instilled. Resilience was defined by Boss (2006) as the ability to sustain or increase the level of functioning when facing a crisis. Resilient individuals were characterized by Lambert and Lawson (2013) as those able to cope with challenges through the development of coping mechanisms in the face of obstacles. Resilient marriage and family counsellors are able to rebound or bounce back when they face challenges when working with clients or due to issues related to their work.

Also, as related to resilience, Macedonia (2018) found that resilience and self-care practice were significantly positively correlated among disaster responders. Another study by Lin (2012) suggested that self-care actions could nurture resilience in counsellors. In this regard, resilience and self-care can be inferred as two pivotal components for helping professionals such as the marriage and family counsellors. The counsellors have to uphold the importance of being resilient and the practice of self-care in their professional and personal lives.

Self-care practice is characterized as the counsellors' actions to reduce the amount of tension, anxiety, and emotional reactions they experience while interacting with

clients (Williams et al., 2010). Meanwhile, Bradley et al. (2013) described self-care as behaviours or experiences that stimulated improvement and sustainability of the counsellors. It is undeniably that self-care is crucial in the professional and personal life of a counsellor; the lack of it could possibly cause harm to them (Coaston, 2017).

It is also an ethical imperative to self-care practice as outlined by Malaysian Board of Counsellors (Lembaga Kaunselor Malaysia, 2016). There is a necessity for counsellors to practise self-care activities. The practice is beneficial to the holistic wellness of the counsellors. By maintaining a high functioning level through self-care, the counsellors could provide quality services to clients as well as avoid possible harm to clients.

As self-care practice, marriage and family counsellors can sustain their professional and personal functioning by attending to their social, mental, spiritual, physical, cognitive, and vocational needs. The benefits of practising self-care activities are clear and significant. Through self-care practice, the counsellors are able to handle job stress, and to avoid burnout, exhaustion of compassion, and vicarious trauma (O'Halloran & Linton, 2000; Thomas & Morris, 2017).

Despite the importance of self-care practice, there are empirical findings showing that both in-service counsellors and counsellors-in-training do not practise self-care techniques regularly (Nelson et al., 2018; Patsiopoulou & Buchanan, 2011; Thomas & Morris, 2017). They tend to

neglect their well-being by not properly addressing problems they face in work. In this sense, the functions of self-care practice as a way to prevent secondary traumatic stress after dealing with clients' traumatic first-hand experiences must be clearly acknowledged (Craig & Sprang, 2010; Hensel et al., 2015).

Rationales and Objectives of the Study

Due to the importance of preventing or resolving burnout, building resilience, and engaging in self-care practise, this study was conducted. In past studies, previous researchers merely put emphasis on burnout, resilience, and self-care among counsellors in general and other mental health professionals (Mache et al., 2016; Richards, 2017). This means not many studies have been done previously to highlight burnout, resilience, and self-care specifically among marriage and family counsellors. Also, there was no study done on relationships between the three constructs. Another main rationale of conducting this research on marriage and family counsellors in Malaysia is that there is limited research explicitly on marriage and family counsellors or the therapy process (Noor, 2014).

Therefore, this study was carried out to explore the relationships between burnout, resilience, and self-care, particularly on marriage and family counsellors in Malaysia. It is hoped that the findings of this study will provide empirical evidence which explains the psychological conditions of the counsellors.

There were four hypotheses formulated in this research.

H₁: There is a significant relationship between burnout and resilience among marriage and family counsellors in Malaysia.

H₂: There is a significant relationship between burnout and self-care among marriage and family counsellors in Malaysia.

H₃: There is a significant relationship between self-care and resilience among marriage and family counsellors in Malaysia.

H₄: Burnout is significantly predicted by self-care and resilience among marriage and family counsellors in Malaysia.

METHODOLOGY

This study employed a non-experimental quantitative approach research design. A correlational research design was used to examine the relationships between the constructs of interest (Gay et al., 2012). The correlation coefficient between variables can be either positive or negative which shows the direction of the relationship between the variables.

Population and Sampling Procedures

Marriage and family counsellors in thirteen states and three federal territories were involved. The target population of the study was marriage and family counselling practitioners in Malaysia. Currently, the amount of marriage and family counsellors is unknown as there is no recorded data related to the number of marriage and family counsellors in Malaysia.

Bujang and Baharum (2016) stated that an important consideration for correlation research was to ensure that the sample size is sufficient. In light of that, a G*Power analysis was conducted to determine the sample size of this study based on the desired correlation coefficient, power, and Type I error (p-value) values.

In most studies, as suggested by (Cohen, 1992), correlation coefficient which is considered sizable is 0.3. There are a few commonly used values for power, which is the probability of Type II error (one minus beta). Power of 0.8 (beta = 0.2) or 0.9 (beta = 0.1) are commonly used and acceptable values. In this research, power of 0.8 was used with the p-value set at 0.05. Based on the correlation coefficient of 0.3, statistical power of 0.8, and the alpha level of 0.05, it was determined that the sample size required for this study was 84 counsellors (Bujang & Baharum, 2016).

Simple random sampling method was then used in this study to ensure the representativeness of the sample (Gay et al., 2012). Due to the unknown total amount of marriage and family counsellors, 200 marriage and family counsellors in Malaysia were first recruited to participate in the research. This number of respondents was larger than the required number of respondents from the power analysis. Questionnaires were then distributed to the randomly selected respondents. There were 96 responses returned by the respondents. The response rate was acceptable as the amount of responded questionnaires had

exceeded the required amount suggested from the power analysis.

Instrumentation

This study had utilized four different instruments in the data collection process. The instruments were (a) Demographic and Occupational Data Survey, (b) Counselor Burnout Inventory (CBI; Lee et al., 2010), (c) Brief Resilience Scale (BRS; Smith et al., 2008), and (d) Self-Care Assessment Worksheet (SCAW; Saakvitne & Pearlman, 1996).

Demographic and Occupational Data Survey. The Demographic and Occupational Data Survey form was developed to gather demographic information about the respondents' gender, age and ethnicity.

In terms of occupational data, practice setting, academic qualification in counselling, level of specialized training in marriage and family counselling, and years of marriage and family counselling experience of the respondents were included.

Information related to the respondents' age, race or ethnicity, gender, practice setting (Education Setting, Hospital, Welfare Department, Non-Governmental Organization, Private Practice) was collected for descriptive purposes. Academic qualification in counselling, level of training in marriage and family counselling, and years of marriage and family counselling experience indicated the participants' competency, such as skills and knowledge in general counselling and marriage and family counselling practice.

Response choices of the academic qualification in counselling were (a) Bachelor's Degree, (b) Master's Degree, and (c) Doctorate Degree. As for level of training in marriage and family counselling, five different levels were included, namely (a) Certificate, (b) Diploma, (c) Bachelor's Degree, (d) Master's Degree, and (e) Doctorate Degree. Meanwhile, for years of marriage and family counselling experience, the durations of experience were grouped into three subcategories as proposed by Ronnestad and Skovholt (2003), which were: (a) novice (0–5 years), (b) experienced (6–14 years), and (c) seasoned (more than 15 years).

Counsellor Burnout Inventory

Counselor Burnout Inventory (CBI; Lee et al., 2010) was developed to measure burnout among professional counsellors. This inventory consisted of 20 items which were divided into five subscales, namely Exhaustion, Incompetence, Devaluing Client, Negative Work Environment, and Deterioration in Personal Life.

Respondents provided their responses by using a five-point Likert-type scale in which 1 indicates “never true”, while 5 represents “always true”. Each score of the five subscales ranges from four to 20, with total scores ranging from 20 to 100.

Lee and his colleagues (2010) found that the overall internal consistency of this instrument was 0.94, with 0.80 for Exhaustion, .81 for Incompetence, 0.83 for Devaluing Client, .83 for Negative Work Environment, and 0.84 for Deterioration in

Personal Life subscales. Hence, it can be concluded that the instrument was reliable.

Brief Resilience Scale. Brief Resilience Scale (BRS) was developed by Smith et al. (2008) to measure an individual's level of resilience. This instrument consists of six self-report items. The scale used in the items of BRS is a five-point Likert-type scale; strongly disagree (1) to strongly agree (5). The possible highest score is 30, and the lowest score is six. Higher score indicates higher level of resilience of an individual. The result of Smith and his colleagues' initial study showed that this instrument demonstrated strong convergent and discriminant predictive validity. It was also found that the internal consistency of the BRS ranged from 0.80 to 0.91. The use of this instrument was found to be valid and reliable in the context of Malaysia (Amat et al., 2014).

Self-Care Assessment Worksheet. Self-Care Assessment Worksheet (SCAW) is an assessment tool to indicate and measure the degree or frequency of engagement in effective self-care maintenance strategies by individuals (Saakvitne, & Pearlman, 1996). However, it is not used for diagnostic purposes. Instead, it provides descriptive data of the respondents' self-care activities. This tool is divided into six dimensions, namely Physical, Emotional, Spiritual, Psychological, Workplace or Professional, and Balance.

Respondents of this study were required to rate from 1 to 5 in terms of the frequency

they engaged in each item, such as the frequency of they practiced certain self-care activities according to the six dimensions. The scale used in this instrument is a five-point Likert-type scale, in which 1 indicates “never occurred to me”, whereas 5 indicates “frequently occurs”. The higher the total score, the higher the frequency of self-care activities engagement. Despite the instrument’s popularity in the study of self-care, no psychometric properties are being established for this measure (Alkema et al., 2008) as it is commonly used as a behaviour checklist (Saakvitne, & Pearlman, 1996).

Pilot Study

A pilot study was conducted on 32 counsellors who practised marriage and family counselling to validate the survey instruments and their measurements in terms of reliability (Ruel, Wagner, & Gillespie, 2015; Creswell, 2018). The respondents consisted of eight males (25%) and 24 females (75%) aged between 27 to 48 years old. In terms of ethnicity, 19 (59.37%) of the respondents were Malay, nine (28.13%) were Chinese, and four (12.5%) were Indian.

In this study, reliability analyses were conducted by identifying the overall reliabilities of the instruments and their respective subscales. From the pilot study, the overall reliability of CBI was 0.91. The reliability values of the subscales were Exhaustion (0.68), Incompetence (0.63), Devaluing Clients (0.66), Negative Work Environment (0.64), and Deterioration in Personal Life (0.65). On the other hand, the reliability of BRI was 0.66.

The overall reliability of SCAW was 0.93. The reliability coefficients of the subscales were Physical (0.84), Emotional (0.78), Spiritual (0.78), Psychological (0.85), Workplace or Professional (0.79), and Balance (0.75).

Nunnally and Bernstein (1994) stated that the acceptable value of the reliability coefficient was 0.60. Hence, by considering the Cronbach’s alpha values obtained from the instruments, the instruments were reliable and suitable for measuring the constructs.

Data Collection and Analysis

Data collection and analysis were adopted similar to the study conducted by Ghoroghi et al. (2015). Items in the instruments were transferred to a web-based survey tool of Google Form. They were then distributed to the respondents. The respondents were advised that the completion of the survey would take approximately 10 to 15 minutes. At the end of the data collection process, there were 96 responses obtained. The data collected was then transferred to Statistical Package for the Social Sciences (SPSS) version 25.0 for data analysis purposes.

Meanwhile, descriptive statistics analysis, which included the frequency and percentage were also performed on the Demographic and Occupational Data Survey data. This statistical analysis was to describe the basic features of the data from the respondents in this study (Trochim et al., 2016). By performing this analysis, deeper understanding of the respondents’ background can be attained.

In addition, the normality of the data collected from CBI, BRI, and SCAW was also checked with skewness and kurtosis. Mahalanobis distance test was used to determine the presence of outliers. Pearson product-moment correlation coefficients were calculated among the quantitative constructs. The coefficients obtained were interpreted based on the strength and direction between the constructs in the study. Correlation coefficients that range from ± 0.70 to ± 1.00 indicate a strong relationship, ± 0.30 to ± 0.69 indicate moderate relationship, whereas none (0.00) or weak relationship range from ± 0.00 to ± 0.29 (Jackson, 2014). A multiple regression analysis was also conducted to predict burnout by self-care and resilience.

RESULTS

Descriptive Statistical Analysis Findings

Out of the 96 respondents, 78 (81.3%) were female marriage and family counsellors whereas the percentage of male counsellors was 18.3% ($n = 18$). Most of the respondents were aged 35 to 44 years old ($n = 39$, 40.6%). There were 35 (36.5%) respondents who were between 25 to 34 years old. The remaining respondents were 21% ($n = 21.9$) for respondents aged between 45 to 54 years old and 1% ($n = 1$) for respondents above 55 years old. In terms of ethnicity, the majority of the respondents were Malay ($n = 47$, 49%), followed by Chinese ($n = 31$, 14.6%), Indian ($n = 14$, 14.6%) and other ($n = 4$, 4.2%).

In term of work settings, there were 25 (26%) respondents who worked in a hospital setting, followed by 24 respondents (25%) who worked as private practitioners, 23 (24%) of the respondents in education settings, 15 (15.6%) in non-governmental organizations, and the remaining 9 (9.4%) respondents provided their services in the welfare department.

The majority ($n = 46$, 47.9%) of the respondents earned a Master's degree in the counselling field. There were 35 (36.5%) respondents who owned a Bachelor's degree in counselling, and 15 (15.6%) were qualified at the Doctoral degree level. In terms of specialization, most of the respondents ($n = 57$, 59.4%) received their certificate level training in the marriage and family counselling field. Twenty-five (26%) of the respondents reported that they earned a Master's degree related to marriage and family counselling. Four (4.2%) respondents graduated at the Doctorate level. Meanwhile, 10 (10.4%) of the respondents indicated that they never received any marriage and family counselling training. None of the respondents received training at a diploma or bachelor's degree level.

Forty (41.7%) respondents were deemed novices in the marriage and family counselling field as the years of their practice as marriage and family counsellors were not more than five years. Meanwhile, 32 (33.3%) counsellors have practiced marriage and family counselling for six to fourteen years. Twenty-four (25%) of the respondents were seasoned marriage and family counsellors.

Inferential Statistical Analysis Findings

In order to ensure the data was normally distributed, skewness and kurtosis of burnout, resilience, and self-care were calculated. Table 1 shows the skewness and

kurtosis of self-care, resilience, and burnout. The data collected was normally distributed. The skewness and kurtosis of a set of normally distributed data was expected to range from -2 to +2 (Garson, 2012).

Table 1

Skewness and kurtosis of self-care, resilience, and burnout

Constructs	Skewness	Kurtosis
Burnout	-0.08	-1.28
Resilience	0.51	0.06
Self-care	-0.15	-0.47

Hypothesis 1 outlined the relationship between burnout and resilience among marriage and family counsellors in Malaysia. The findings as shown in Table 2 show that there is a statistically significant relationship between resilience and burnout ($p < 0.05$).

The correlation between resilience and burnout is a moderate negative relationship ($r = -0.323$). An increase of resilience is moderately correlated with decreased burnout, $r(94) = -0.323$, $p < 0.05$. Therefore, Hypothesis 1 is retained.

Table 2

Correlation between variables (n = 96)

	Burnout	Resilience	Self-care
Burnout	1.0		
Resilience	-0.323**	1.0	
Self-care	-0.324**	0.879**	1.0

Note. ** Correlation is significant at the 0.01 level (2-tailed).

Besides, it was found that there is a moderate negative correlation between burnout and self-care, $r(94) = -0.324$. The relationship between self-care and burnout is statistically significant ($p < 0.05$).

Therefore, Hypothesis 2 is retained. This result suggests that an increase of self-care is moderately correlated with a decrease of burnout, $r(94) = -0.324$, $p < 0.05$.

As for Hypothesis 3, the result shows that there is a statistically significant relationship between self-care and resilience ($p < 0.05$). The relationship between self-care and resilience shows a strong positive relationship ($r = 0.879$). An increase of self-care is strongly correlated with an increase of resilience, $r(94) = 0.879$, $p < 0.05$. The Hypothesis 3 is retained.

A multiple regression analysis was carried out to examine whether burnout is statistically predicted by self-care and

resilience. In the Multiple Regression Analysis, the result of ANOVA in Table 3 shows that the model is significant ($F = 5.826$, $p < 0.05$). In Table 4, the results indicated that the model explained 11.1% of the variance. The analysis in Table 5 shows that self-care did not significantly predict burnout ($Beta = -0.199$, $p > 0.05$, and so did resilience ($Beta = -0.572$, $p > 0.05$). Thus, Hypothesis 4 is rejected.

Table 3
ANOVA result of multiple regression analysis

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	1687.170	2	843.585	5.826	0.004 ^b
	Residual	13465.319	93	144.788		
	Total	15152.490	95			

Note. a. Dependent Variable: Burnout; b. Predictors: (Constant), Self-Care, and Resilience.

Table 4
Model summary

Model	R	R ²	Adjusted R ²	Std. Error of the Estimate	Change Statistics				
					R ² Change	F Change	df ₁	df ₂	Sig. F Change
1	0.334 ^a	0.111	0.092	12.033	0.111	5.826	2	93	0.004

Note. a. Predictors: (Constant), Resilience, Self-Care

Table 5
Coefficients for the multiple regression model

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	110.632	50.773		2.179	0.032
1 Self-care	-0.199	0.229	-0.178	-0.869	0.387
Resilience	-0.572	0.708	-0.166	-0.807	0.421

Note. a. Dependent Variable: Burnout.

DISCUSSION

According to the result, a significant negative correlation between burnout and resilience exists. This finding is consistent with the previous research by Burnett (2017) that revealed resilience was significantly negatively correlated with burnout among trauma responders. Besides, Harker et al. (2016) found that a high level of resilience could be a significant predictor of low burnout levels. These studies have shown that there is consistency between the results of previous studies and this study despite different instruments being used to measure resilience and burnout.

From the relationship found between burnout and resilience, it can be suggested that individuals with low resilience level are more likely to be exposed to burnout, whereas those who are more resilient are less likely to be at risk of burnout. It can be said that resilience could function as a protective factor to burnout among marriage and family counsellors. The counsellors who have a higher capability of bouncing

back are more capable of coping with challenging situations that could lead to burnout. Therefore, the development and conduct of programmes which focus on resilience building must be encouraged as a way to increase the resilience level which consequently could act as a prevention of burnout.

This study also examined the relationship between burnout and self-care. The relationship between the two constructs was found to be significantly moderate. This result is in line with the previous finding by Catlin-Rakoski (2012) which indicated that professional self-care was strongly related to low burnout. However, it should be noted that there is a difference in terms of the magnitudes of the correlation between the finding by Catlin-Rakoski and the present study. The finding of this research also resonates with Malinowski's (2014) opinion that self-care is a determining factor to reduce burnout.

From the result, it can be said that marriage and family counsellors who practise self-care activities by attending to

their needs regularly do not easily get to experience a high level of burnout. These activities serve as barriers to cushion the impacts of tension that the counsellors face in their work settings. The counsellors must engage in self-care practice for their overall well-being. There are a host of self-care activities that can be engaged. The counsellors must first be proactive to identify activities that are healthy in order to attend to their physical, emotional, social, spiritual, and mental needs.

The importance of the practice of self-care has to be highlighted in the counsellor education programmes. Counsellor educators are strongly encouraged to expose counsellors-in-training regarding the significance of self-care in the endeavour as mental health professionals. Future counsellors must firstly be aware of the emotionally demanding work nature of a counsellor. Then, exposure about self-care practice has to be provided in order to prevent impairment to the counsellors as well as to clients. From the practice of self-care in the training programme, they will get more accustomed to self-care activities in order to achieve professional and personal life balance, and to prevent the occurrence of burnout to themselves.

In addition, this study also indicated that self-care level was related to resilience level among marriage and family counsellors. This means that resilient counsellors are counsellors who practise self-care activities regularly. As mentioned by Masson (2019), making oneself resilient is a part of self-care practices. Therefore, the engagement

of self-care activities is deemed as a means to enhance resilience. In this context, Grant and Kinman (2015) suggested mindfulness self-care activity as a way to promote resilience among helping professionals. The effectiveness of mindfulness approach was evidenced as it was also found to be helpful to foster resilience among other professionals (Foureur et al., 2013).

Additionally, the practice of supervision must be spurred in the marriage and family counselling field. Supervision experience is inevitable in the development of counsellors (Jaafar, 2011). The effort of promoting self-care practice and building resilience must be emphasized through the supervision process. It was found by Thompson et al. (2011) that supervision was effective in promoting resilience among counsellors. Therefore, in the supervision process, opportunities can be offered to the counsellors to voice out issues or challenges that they face. This platform can serve as a way of self-care practice to the counsellors. The supervisors can function as mentors by providing advice, feedback, guidance, and emotional support to the counsellors. Successes which the counsellors have achieved in the past can also be discussed in the supervision session in order to elevate the self-efficacy of the counsellors (Ooi et al., 2018). Consequently, the counsellors will be more open to new experiences and well-equipped with the abilities and traits that are necessary to overcome hurdles in their professional life.

In the present study, burnout is not significantly predicted by the practice of self-care and resilience level. The result of

the prediction of burnout through self-care is divergent with literature that suggested the presence of relationships between the three constructs (Burnett, 2017; Malinowski, 2014). The finding of this study showed that burnout was not influenced by the habit of taking good care of oneself and by being resilient. This means marriage and family counsellors who often attend to their needs and who are able to bounce back in the face of adversity may not show the tendency to low risk of burnout.

One of the reasons that could explain the result is that burnout among marriage and family counsellors might be significantly predicted by other psychological constructs or demographic factors such as age (Mueller, 2018), hours worked per week and job setting (Rosenberg & Pace, 2006), psychological detachment (Nasharudin et al., 2020), as well as emotional, physical, and spiritual factors (Ismail et al., 2020) instead of the practice of self-care and resilience level merely. Therefore, this finding has offered a new perspective and opportunity for new study. Future research should give more considerations of the other constructs or variables on the relationships between the burnout, resilience, and self-care.

CONCLUSION

The psychological impact on marriage and family counsellors during the COVID-19 pandemic is an important deliberation. This study has provided new information on burnout, resilience, and self-care among marriage and family counsellors in Malaysia. These constructs are key to the personal

and professional development of marriage and family counsellors. Thus, the findings have provided another evidence-based understanding of the practice of self-care, resilience, and their relationship on burnout among marital and family counsellors.

Despite the findings in this study, the limitations of this study should be noted as well. This study only utilized questionnaires in the data collection process. It was assumed that each respondent would provide a truthful and accurate response based on his or her personal experience. The data obtained in this research were solely based on the self-reported data of the respondents. An in-depth exploration of the respondents' perceptions was not through the instruments. Thus, the findings were only confined to the respondents' responses and might not reflect the most accurate measurement of the constructs.

Secondly, this study did not include demographic and occupational data in the inferential statistical analysis. Therefore, in future research, demographic and occupational data such as age, gender, or years of service experience can be included to further explore whether there are significant relationships between the constructs based on demographic and occupational data. For instance, correlations between self-care, resilience, and burnout can be determined specifically among novice marriage and family counsellors or among marriage and family counsellors who work in education settings. The inclusion of these variables is expected to yield new perspectives about the burnout, resilience, and self-care.

ACKNOWLEDGEMENT

The authors would like to express their deepest gratitude to the respondents who were willing to participate and provide full cooperation in this study.

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Impact of Scientific Calculators in Mathematics among Low-Achieving Students in a Secondary School in Kajang, Selangor

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ABSTRACT

This study aims to investigate the effects of scientific calculators on mathematics achievement in support of problem-solving instructions. In this study, 49 low achieving mathematics students aged 14 years were selected from a secondary school in Kajang, Selangor, Malaysia. A pre-test post-test quasi-experimental design with two groups was employed in this action research study. The experimental group learned solid geometry and statistics topics, with the aid of a scientific calculator; while the control group did not use any technological aid to learn these topics. By controlling the pre-test score, the ANCOVA two-way test was applied to the post-test results. A positive significant difference was reported in favour of the experimental group. However, no significant interactions were noted between group and gender. The analysis results indicate that the use of a scientific calculator in the integrated teaching and learning of mathematics helped the students improved their mathematics achievements. These findings have important implications in the educational setting, particularly for educators to support and facilitate low-achieving students in mathematics.

Keywords: Achievement, low achieving students, mathematics, problem solving, scientific calculators

ARTICLE INFO

Article history:

Received: 13 November 2020

Accepted: 11 March 2021

Published: 14 April 2021

DOI: <https://doi.org/10.47836/pjssh.29.S1.11>

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INTRODUCTION

Since its first introduction in 1970s classrooms, the calculator has been widely used in mathematics education for decades (Kissane, 2020). The pocket calculator was then commonly accessible due to its reasonable price, and it influenced both teachers and students to use it for teaching and learning (Banks, 2011). Most

calculators were equipped with limited functionality, functioning as nothing more than effective abacuses for simple arithmetic use. However, this computing tool developed quickly in terms of features and evolved to become more programmed and scientific. Simultaneously, policymakers, scholars, and researchers have been promoting the use of scientific calculators in the teaching and learning of mathematics (Bridget, 2016; Kissane, 2020). While extensive studies have been undertaken to support the use of scientific calculators as a learning tool, significant debate remains concerning the appropriateness of its use in schools.

Many have claimed that the use of calculators in elementary and early middle school classrooms could threaten students' proficiency and fundamental understanding of mathematics. Moreover, students may become too reliant on this learning tool (Line, 2020). Besides, some educators have criticized the fact that students are unable to manually compute basic mathematics and arithmetic skills due to their reliance on the calculator (Klein, 2000). Although educators and the community have expressed concern about this issue, several studies have supported the use of calculators in the classroom. According to National Council of Teachers of Mathematics (2000), calculators are known as pedagogical resources that improve learners' understanding of mathematics.

Moreover, a second-order meta-analysis of 30 years of research conducted by Young (2017) showed that calculators encouraged

higher-order thinking by releasing students from excessive computations and encouraging teachers to ask richer questions. Besides, creativity in using computation tools also stimulates students to solve problems (Muhammad Hafizi & Kamarudin, 2020). In the meantime, Marasigan (2018) suggested that students must practice using these modern devices to navigate their way into the digital age. Practical and meaningful learning methods should be taken into account with proper intention and appropriate planning. As such, students should use the computation tool for computing and understanding mathematical concepts.

Studies in Malaysia have shown that dissatisfaction in mathematics achievement is related to students' difficulties in solving mathematics problems. Students have a hard time understanding and retrieving concepts, formulas, and facts. As they are somehow unable to picture the problems and concepts of mathematics, this causes them to struggle in planning strategies to solve mathematics problems (Parrot & Leong, 2018). Furthermore, students' frustration and helplessness in answering mathematics questions may have a negative impact on them (Wong & Wong, 2019). Previous analysis of TIMSS and PISA assessments in mathematical literacy found that most students in Malaysia are unable to interpret information to solve complicated mathematics problems (Tajudin & Chinnappan, 2016). Other studies often indicated that students who have trouble

dealing with the mathematical task tend to memorize steps or formulas of the mathematical solution and thus fail to grasp the mathematical principles, processes, and relationships (e.g., Embong et al., 2020).

This condition leads to poor mathematical performance and has a massive influence, especially on low-achieving students. However, several studies have suggested these issues can be overcome by supporting students to use technology in their learning environment. Wong and Wong (2019) stated that low-achieving students showed a strong interest in mathematics. Mathematics performance is enhanced when technological tools and resources like a calculator support their learning environment. A quasi-experiment study by Kandemir and Demirbağ-Keskin (2019) found that using the calculator to solve mathematical problems indicated significant positive differences favouring the experimental group. Kissane (2020) suggested that providing a calculator aided in student learning and nurtured them to be thoughtful users. Additionally, many believe that technology can help students learn concepts by checking their work and guiding them in the right direction to solve mathematical problems (Costley, 2015). Furthermore, Young (2017) reported that a prior meta-analysis of the impact of calculators on mathematics achievement was influential. Thus the use of calculators should be embraced as pedagogically relevant resources.

Gender is another factor influencing students' achievement. The PISA assessment analysis by Thien and Ong (2015) discovered that Malaysian female students performed better than male students in mathematics literacy. This statement is supported by Taylor and Dalal (2017) whose results survey stated females were more likely to have 49 percent marks compared to males with 37 percent in mathematic literacy based on their mean results. Besides, Thien and Ong (2015) reported that girls significantly outperformed boys in three categories of mathematical content (i.e., foundation, basic facts, and application) and processes. More recent trend analysis by Tajudin and Chinnappan (2016) as well as Ahmad et al. (2017) revealed that in most countries in Asia, girls had a better academic performance than boys.

Further, the results from the Malaysian standard public examination also indicated that girls performed better than boys. According to Tajudin and Chinnappan (2016), this problem is specific to Malaysia and other countries. Concerning this issue, the country needs to be vigilant in ensuring that it does not have a cohort of 'lost boys' leaving school early or with low-performance levels. Hence, to overcome this problem, an effective intervention has been proposed involving a technology resource, such as a calculator. Therefore, this study aimed to explore the effects of using scientific calculators on mathematics learning, focusing on Form Two secondary school students with low achievement in mathematics.

LITERATURE REVIEW

Mathematics education begins with conventional mathematics that emphasizes mainly basic skills and is predominantly computational. However, the Malaysian mathematics curriculum has undergone several significant changes over the last five decades. In the early seventies, all primary and secondary schools were introduced to the “Modern Mathematics Program” (MMP). The program’s main goal was to incorporate a range of new “modern topics,” including simplified basics in set theory, statistics, and vectors. To shift the “traditional” approach commonly used in mathematics teaching and learning, integrating technology resources was infused into this learning (Price, 2015). Thus, in 2003, the Ministry of Education (MOE) permitted the use of scientific calculators for Form Two students in secondary schools (The Star, 2003). Scientific calculators have become a standard technological tool in the Malaysian education system for all students at various levels, and most students use them during mathematics lessons. The use of the scientific calculator is also allowed in the Sijil Pelajaran Malaysia (SPM) examination.

Although the scientific calculator has been used extensively until today in teaching and learning mathematics, an analysis from the Trend in International Mathematics and Science Study (TIMSS) found that research on the use of scientific calculators among Malaysian students was only conducted until 2007 (Rebecca, 2013). There is a lack of recent studies on the use of scientific calculators among students in Malaysia.

Furthermore, it is challenging to obtain any information or data on using scientific calculators since researchers have barely conducted studies in this area (Parrot & Leong, 2018). For example, using a grey resources database (i.e., Google Scholar) between the years 2016 to 2020, the researchers manage to only obtain 38 articles or books with the keywords “scientific calculator” and “mathematics”. A scientific calculator is not only a tool to perform mathematical computations, but it can also be used as a tool for understanding mathematical concepts. Despite the myths of harmful consequences resulting from its use, a scientific calculator gives an excellent value as a pedagogical tool that benefits educators and students (Kharuddin & Ismail, 2017).

Several studies have shown that utilizing scientific calculators as an instructional tool helps enhance critical thinking, understanding of connections among graphical, tabular, numerical, and algebraic representations, and allows students to improve their confidence in mathematics (Ochanda & Indoshi, 2011). Scientific calculators make mathematical calculations easier and more precise. This technological tool enables students to expand their mental abilities when its use is integrated into the teaching and learning of mathematics (Darling-Hammond et al., 2020). For example, a scientific calculator provides a quick, easy, and accurate alternative. Utilizing a scientific calculator helps students to obtain the correct answers faster than even the most seasoned mental arithmeticians.

Once students have mastered the use of the scientific calculator, they do not have to spend the same amount of time applying mathematical concepts (Darling-Hammond et al., 2020). Research by Agustyaningrum, et al. (2018) found that low-achieving students minimized their carelessness and computational errors when using a scientific calculator to solve mathematics problems. These students had difficulties understanding mathematical concepts and ideas that underlied mathematical problems (Sivasubramaniam & Kamarudin, 2020). However, when they can speed up the learning process by spending less time on tedious calculations (Darling-Hammond et al., 2020), they can invest more time into understanding and solving problems. A scientific calculator enables students to build a better sense of numbers and consolidate their mathematical concepts (Marasigan, 2018).

Low-achieving students tend to spend more time understanding intangible concepts through tangible means to solve mathematical problems using scientific calculators. This technology tool allows students to deal with much more complicated and profound issues than ever before, which most students could not solve previously (Banks, 2011). It seems that while conventional mathematical methods of problem-solving tend to disable a significant number of students, scientific calculators act as an equalizer. Students can now delve deeper into the subject, develop their reasoning skills, handle numbers, and obtain mathematical insight into the process using scientific calculators in learning mathematics.

In addition to developing students' cognitive skills, using the scientific calculator to solve mathematical problems helps students gain confidence in their mathematics abilities. Students become confident enough to manage any mathematical situation without being hindered by fear and anxiety about mathematics (Bridget, 2016). To enhance low-achieving students' achievement in mathematics, they must eliminate their fear and anxiety about mathematics. Therefore, an appropriate teaching approach with the integration of scientific calculators in mathematics lessons enables low-achieving students to become more optimistic and eventually improve their mathematics achievements.

Educational statistics and worldwide media have reported a clear gender gap in academic achievement between males and females, with the first lagging behind the latter in terms of subject grades, secondary school graduation, tertiary level enrolment and completion of school (Parker et al., 2018). The superior performance of females over males in secondary school and other education levels appears to be a growing international phenomenon. A recent and significant comprehensive global meta-analysis that examined male-female performance at all levels revealed that girls had always outperformed boys in school (Marc Jackman et al., 2019). This data means gender can be a factor that influences students' achievements even though technological aids are used in integrated teaching and learning during mathematics lessons.

The integrative teaching and learning theory is rooted in many other teaching and learning theories, including situated cognition, constructivism, and project-based learning (Ceker & Ozdamli, 2016). Integrative teaching and learning approaches distils these ideas into several main facts. First, to teach and learn, education must be student-centred and student-driven. Assignments must be relevant to teachers and students as well as the world around them. Finally, education should emphasize exploration, real-life experiences, and hands-on projects.

Integrated teaching and learning approaches can be described as actions that enable students to explore, collect, process, refine, and present information on topics they wish to investigate without the requirements imposed by traditional subject barriers (Pigdon & Woolley, 1992). An integrated approach allows students to engage in purposeful and relevant learning, for example, by using a scientific calculator in learning mathematics. Integrated teaching and learning can be defined as teaching and learning integrated lessons that enable students to create connections across the curricula (Costley, 2015). In this study, an integrated teaching and learning approach implemented is outside the typical or traditional teaching method, and learning mathematics using a scientific calculator is explored among low-achieving mathematics students.

Successful integrated teaching and learning may have a positive impact on low-achieving mathematics students'

performance. Therefore, a practical and exciting integrated teaching and learning process can result in a more active learning process among students (Ghavifekr & Rosdy, 2015). Using scientific calculators can encourage low-achieving students to be more interested in learning mathematics as they acquire new skills from using the scientific calculator to solve mathematical problems. With effective integrated teaching and learning using a scientific calculator, low-achieving mathematics students are more likely to improve their performance. Integrated teaching and learning can foster a conducive learning environment for students. Nevid and Gordon (2018) argued that it would be useful for students to use the integrated teaching and learning approach during mathematical lessons in the classroom. Students are more focused and actively involved in the learning process, thus contributing to better results in their mathematical understanding.

MATERIALS AND METHODS

Research Design

In this study, the action research design with an embedded quasi-experimental study was adopted (Ramlal & Augustin, 2020). Action research is a method of investigation designed for teachers to solve problems in their classrooms and improve professional practices (Parsons & Brown, 2002). This method includes systematic observations and data collection, which the practitioner-researcher uses to represent, evaluate, and establish a more efficient classroom strategy to improve mathematics

performance among students, regardless of gender. Action research was selected for the current study because the researcher aimed to promote the use of scientific calculators to solve mathematics problems. Practical action research focuses on teachers' growth and students' learning. Implementing practical action research in the classroom enables a teacher to become a researcher.

Practical action research includes four key points (Mills, 2000): (i) focus area, (ii) action plan, (iii) data collection and analysis, and (iv) data interpretation. This study focuses on helping low-achieving students improve their mathematical achievements, particularly for solid geometry and statistical topics. Therefore, this study created instructions on how students should use scientific calculators to solve math problems in solid geometry and statistics. The research questions, method, and assessment were also included in this study before the new idea of instruction was introduced in the classroom.

The data were collected from a quasi-experimental study (equivalent to the experimental and control groups) with a pretest-posttest design. In this research, the students in the control group conventionally solved mathematics problems without using any technological device. Meanwhile, in the treatment group, students used a scientific calculator as a learning aid. The pre-test and post-test data were then analysed using a sufficient analysis. Finally, the analysed data were interpreted to determine the effectiveness of the intervention. Practically, the use of the action research

design was to help teachers and students collaborate in improving their teaching and learning strategy, which would support the low-achieving students to improve their mathematical performance.

Participants

The participants in this study were Form Two students of a low level of achievement at a secondary school in Kajang, Selangor, Malaysia. The students were selected according to their previous mathematics examination results of less than 50 marks. A total of 100 students with poor achievement in mathematics were identified, and all of them studied in the intensive classes with the same teacher. However, only 74 students were willing to voluntarily participate in this study. To test the validity and reliability of the instruments, a pilot test was conducted involving 25 selected students to whom the instruments were administered.

The action research was implemented among the rest of the students (see Table 1). The students were selected randomly and assigned into two groups (treatment group and control group). In the treatment group, the explanation and instructions for using a scientific calculator were provided in the learning and teaching process. There were 25 students consisting of 11 boys (44%) and 14 girls (56%). Meanwhile, for the control group, the conventional approach (chalk and talk) and mathematics drilling exercises were performed without using a scientific calculator or other devices. There were 24 students made up of 12 boys (50%) and 12 girls (50%).

Table 1
Distribution of samples for each group according to gender (N=49)

Gender	Control group		Treatment group	
	Frequency	Percentage	Frequency	Percentage
Boys	12	50.0	11	44.0
Girls	12	50.0	14	56.0
Total	24	100.0	25	100.0

Instruments

The mathematics achievement test (MAT) instrument had the format of subjective questions. This instrument was used for both the pre-test and post-test. The Form Three Assessment (PT3) questions related to the Solid Geometry and Statistics topics were collected from the PT3 examination question banks to construct the MAT. Two experts in mathematics with over 15 years of experience were invited to conduct the face and content validation of the test. Finally, a total of 10 items were used in the instrument. The items were then administered for pilot testing to 25 Form Two low-achieving mathematics students. By measuring the internal consistency, the instrument's reliability was analysed using the Kuder-Richardson formula (KR21). The internal coefficient was 0.732. This coefficient value is considered good; therefore, the MAT was regarded as an acceptable instrument for this research.

Data collection and analysis

In experimental research, both the experimental group and control groups were given the MAT pre-tests and post-tests. The participants took the pre-test before the intervention began, while the

post-test was conducted immediately after the intervention in six learning sessions after each session ended. The MAT score was analysed using IBM SPSS statistic version 25. The participants' demographics were represented using descriptive statistics such as mean, standard deviation (SD), frequency, and percentage. The scale score was compared using the mean and SD. To determine the differences in the mean of post-test scores for the control and intervention groups, an analysis of covariance (ANCOVA) was conducted. ANCOVA determines whether the post-test mean scores with the pre-test scores as a covariate differ between two groups. Before performing the ANCOVA, the assumptions of this analysis were tested, which include normality, variance homogeneity, and regression slopes homogeneity.

RESULTS

The mean score of the mathematics achievement test (MAT) was computed and compared with group (control and treatment) and gender. The data presented in Table 2 indicates that there is a big difference in the overall post-test mathematics means scores between groups, where the mean of the treatment group ($M = 29.400$; $SD = 8.129$)

Table 2
Descriptive statistic

Group	Gender	Pre-test (n=24)		Post-test (n=25)		n
		Mean	SD	Mean	SD	
Control group	Boys	3.250	2.221	12.667	5.742	12
	Girls	4.000	1.954	11.083	4.481	12
	Total	3.625	2.081	11.875	5.102	24
Treatment group	Boys	4.546	2.067	28.636	9.277	11
	Girls	3.000	1.569	30.000	7.411	14
	Total	3.680	1.930	29.400	8.129	25
Total	Boys	3.869	2.201	20.304	11.051	23
	Girls	3.462	1.794	21.269	11.397	26

Abbreviation: SD, standard deviation.

is higher than that of the control group ($M = 11.875$; $SD = 5.102$). Meanwhile, there is a slight difference in the overall pre-test mathematics means scores between the control group ($M = 3.625$; $SD = 2.081$) and treatment group ($M = 3.680$; $SD = 1.930$). The comparison of the post-test mathematics means scores between gender shows that girls ($M = 30.000$; $SD = 7.411$) outperformed boys ($M = 28.636$; $SD = 9.277$) in the treatment group. However, in the control group, boys ($M = 12.667$; $SD = 5.742$) outperformed girls ($M = 11.083$; $SD = 4.481$). Despite these findings, there is only a slight difference in the mean score between genders for both groups.

To test this hypothesis, a two-way between-groups analysis of covariance was used. The test involved a 2-by-2 between-groups analysis of covariance. The independent variables were the type of instructional approach (conventional and using the scientific calculator) and gender (boys and girls) with a low achievement in mathematics. The dependent variable was

the scores on mathematics achievement test (MAT) administered following the completion of the treatment (posttest). The MAT scores obtained prior to the commencement of treatment (pretest) were used as covariates to control for individual differences.

Prior to comparing the changes in the pre-post test scores for the intervention and control groups, the ANCOVA assumptions were conducted, including normality, homogeneity of variances, and homogeneity of regression slopes. The normality of the data can be assessed through the value of kurtosis and skewness. The analysis indicated that the data were normally distributed as the skewness ($-0.559 \sim 0.082$) and kurtosis ($-1.0 \sim 0.270$) were within ± 1 (Mishra et al., 2019). Meanwhile, the Levene's test for homogeneity of variances is significant ($p > 0.05$, $p = 0.004$), thus confirming that the variances of the group are not equal. However, this test is not the only way to measure variance. As an alternative, Henseler et al. (2015) suggested

investigating the variance ratio. Using Hartley's F_{max} test to estimate the variance ratio, the results show that $F = 4.285$ is smaller than Harley's F_{max} table = 4.503 ($df = 13, k = 4$), indicating that the variances are equal and homogenous. Next, the homogeneity of regression slopes analysis was conducted to ensure that there was no interaction between the variables.

As shown in Table 3, all interactions between the independent variables (group and gender) and the pre-test scores are > 0.05 , demonstrating that the homogeneity of regression is not violated. Since all the assumptions were complied, it was therefore

appropriate to conduct the ANCOVA analysis.

The ANCOVA two-way test observes that the group's effect was statistically significant, $F(1,48) = 76.607, p < 0.05$. There was no significant interaction effect between the groups and gender as the significance value shown in Table 4 is 0.308, which is above the 0.05 cut-off value. The results suggest that the type of interventions in the group contributed to improving mathematics achievement. Further analysis regarding the group effect was performed to identify the significant impact of different interventions on mathematics achievement (See Table 5).

Table 3
Homogeneity of regression slopes for group - gender - covariate interactions.

Interaction	F	p
group * pretest	0.178	0.676
gender * pretest	0.085	0.772
group * gender * pretest	0.784	0.381

Significant value at $p < 0.05$

Table 4
Tests of between-subjects effects on mathematics achievement

Source	Sum of Squares	df	Mean Square	F	p	Partial eta squared	Observed power
group	3657.284	1	3657.284	76.607	0.000	0.635	1.000
gender	0.176	1	0.176	0.004	0.952	0.000	0.050
group * gender	50.875	1	50.875	1.066	0.308	0.024	0.173

Significant value at $p < 0.05$

Table 5
Estimated marginal means scores for mathematics achievement between groups

Group	M	Std. error	95% Confidence Interval	
			Lower Bound	Upper Bound
Control	11.891	1.410	9.049	14.734
Treatment	29.249	1.393	26.441	32.057

Table 5 indicates a huge difference in the mean scores between the control group ($M = 11.891$) and treatment group ($M = 29.249$). Based on the above findings, the students using the scientific calculator performed better than the conventional group students in solving mathematics problems.

DISCUSSION

This research explored the impact of scientific calculators on mathematics achievement among secondary school students in Kajang, Selangor, Malaysia. The low-achieving students in mathematics designated as the treatment group (using a scientific calculator) demonstrated a higher mathematics performance than those in the conventional group. These results suggest that using scientific calculators as a technological tool in learning mathematics can improve students' achievements, particularly among low-achieving students. In addition, the large effect sizes of the groups support the significant impact of the intervention on mathematics achievement.

Consistent with previous studies (Bridget, 2016; Kissane, 2020; Parrot & Leong, 2018), integrating technology in learning mathematics improves students' mathematics achievements. This study suggested that encouraging students to learn mathematics using calculators, particularly in Solid Geometry and Statistics topics, may help low-achieving students to enhance their understanding. Using a scientific calculator also has a positive impact on students' ability to solve problems. This finding is supported by other researchers who postulated that

students are better problem solvers when computation tools are used in class (Parrot & Leong, 2018). Research shows that the integrated teaching and learning approach enables students to solve mathematics problems efficiently.

Davies and West (2014) stated that integrating technological tools in an integrative teaching and learning approach provided students with a better learning process. Consequently, students can expand their scope of cognitive abilities (Darling-Hammond et al., 2020). In this learning approach, student-centred and student-driven principles are emphasized. Students are encouraged to take responsibility for their learning in solving problems and inquiry. With the assistance of a scientific calculator, mathematics problems are posed to students and the solving process is done without the teacher's guidance. Also, students are asked to create their own, personally meaningful solutions. In both cases, the students act as the problem solvers and they use critical thinking skills and reasoning to develop their solutions (Stephan, 2014). Furthermore, this learning approach encourages students to perform tasks relevant to their surroundings as well as use real-world materials and experiences. Besides, students become more confident in managing various mathematical situations without being hindered by fear and anxiety when solving complicated mathematics problems.

Generally, all low-achieving students in this study were given a similar input on both topics. Thus, there are no biases in their

basic concept knowledge on solid geometry and statistic. This way, the researcher could determine whether a scientific calculator used in the integrative teaching approach has a sole impact on the students' mathematics performance. However, the results indicated that the students' mathematics achievements in the conventional teaching approach without using scientific calculators also improved. According to Darling-Hammond et al. (2020), a learning process takes place amongst students based on their performance and achievements. That said, the difference is not significant. The students in the control group did not do as well as the students using scientific calculators because the former needed more time to do basic computations and had less time to understand the mathematical concept. According to Agustyaningrum et al. (2018), low-achieving students tend to commit careless computation mistakes when they do manual calculations because it is difficult to do in a limited time.

More interestingly, the study found that the gender-related analyses on mathematics achievement do not indicate any significant difference between genders. This result contradicts the findings reported by Thien and Ong (2015), Ahmad et al. (2017), and Tajudin and Chinnappan (2016), as these researchers found significant differences among girls and boys, where girls performed better than boys. However, the descriptive mean score of low-achieving students who used scientific calculators shows a similar result with the PISA data analysis explored by Gevrek et al. (2020), where there was

a difference in mathematics scores in favour of girls. This result was only found in several countries in Asia, including Malaysia and Kazakhstan. However, there were no consistent findings that could explain this difference. Hence, future studies are suggested to further investigate gender and achievement to evaluate this pattern. Not only that, other previous studies have indicated that gender alone is unable to explain this phenomenon. Thus, there is a need to include other vital variables in future studies, such as socio-economic status.

To summarize the empirical findings and discussion, scientific calculators can be considered beneficial in improving learning experiences among low-achieving students. The results of the current study provide promising evidence for addressing a significant issue regarding mathematics achievement. It has been acknowledged that low-achieving students tend to have lower performance and engagement in mathematics. However, utilizing technological resources that can be easily accessed by all students, such as scientific calculators, will lead to a smaller gap in mathematics achievement between high-achieving and low-achieving students. Additionally, this study's findings suggest a promising future for low-achieving students in that they can also be successful like their high-achieving counterparts regardless of their current level of achievements in mathematics.

Although this study presents evidence on the impact of scientific calculators on students' mathematics achievement, it

also has some limitations. First, the study was conducted only within a specific context with specific characteristics of students and selected mathematics topics. Hence, this poses limitations on the study's generalizability. Second, the study's methods and instruments are only limited to quantitative methods using mathematics achievement test scores to measure students' performance. Therefore, additional research using more in-depth qualitative methods, such as in-depth interviews and observation, should be conducted in order to capture and obtain information, particularly on students' conceptual context in solving mathematics problems.

CONCLUSION

This study provides empirical evidence that using a scientific calculator can increase low-achieving students' achievement in mathematics. These findings suggest that effective instruction including the use of a scientific calculator to solve a mathematical problem can encourage low-achieving students to improve their mathematics achievement. A scientific calculator is advantageous for low-achieving students; it enables them to complete mathematics tasks with minimal computational errors and provides them with more time to understand mathematical concepts. The impact of the COVID-19 pandemic forces schools and institutes worldwide to apply digital learning in order to ensure students can continue learning at home. To have continuity in using the computational tool, it is recommended that teachers encourage students to utilize

an online scientific calculator to support and assist low-achieving students in learning mathematics. A web-based calculator for calculation, graphing, geometry, and statistics that can be accessed in ClassPad.net provided by Casio is a fantastic resource for students to learn mathematics.

ACKNOWLEDGEMENT

The authors would like to thank all the students who participated in this study. Special thanks of gratitude also go to the Publication and Citation Unit (PACU), Faculty of Educational Studies, UPM for giving the golden opportunity and extraordinary support to complete this article for publication.

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Assessing the Psychometric Properties of Students' MOOC-Efficacy Measurement Model

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ABSTRACT

Massive Open Online Courses (MOOCs) have been identified as a potential innovation for improving teaching and learning. This research aims to develop and evaluate a measurement model of students' MOOC-efficacy. The study conceptualized students' MOOC-efficacy in four dimensions of information searching, making queries, MOOC learning, and MOOC usability. Data were collected with a 23 items questionnaire whose reliability indexes ranged from 0.822 to 0.890, identified from university students who have had some experience with MOOCs and who willingly volunteered to participate in the research (N=1,524). A sample of 623 respondents was drawn through simple random sampling. The Confirmatory Factor Analysis (CFA) was adopted for data analysis. The findings designate that four-dimensional students' MOOC-efficacy measurement model achieved an acceptable level of fit (RMSEA = 0.061, CFI = 0.935 and a normed chi-square, $\chi^2/df = 3.322$). All statistics provide empirical evidence that the students' MOOC-efficacy measurement model is

psychometrically sound in terms of validity and reliability. The measurement model of students' MOOC-efficacy provides further insights into what works in an open online environment which may be used to fulfill learners' needs and preferences.

Keywords: Confirmatory Factor Analysis (CFA), measurement model, MOOC-efficacy, reliability, validity

ARTICLE INFO

Article history:

Received: 13 November 2020

Accepted: 11 March 2021

Published: 14 April 2021

DOI: <https://doi.org/10.47836/pjssh.29.S1.12>

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INTRODUCTION

The increasing use of e-learning in advanced higher education has led to the establishment of Massive Open Online Courses (MOOCs), a learning platform that is fast attracting global attention. The concepts of e-learning, online learning, distance learning and open learning pioneered the development of MOOCs (Goh, 2017; Zawacki-Richter et al., 2018). MOOCs, an innovation in web-based learning, are an alternative way of delivering interactive teaching and learning to students that poses an enormous challenge to the traditional classroom. “Massive” denotes an unlimited offering of courses, materials and learners, “open” means that the courses are open to participation from a large number of geographically dispersed students. Online courses are those that deliver teaching and learning on the Internet (Jansen & Konings, 2017). MOOCs have been hailed as a potential rejuvenation in instructional technology that responds to the technologically driven environment of 21st century education and industrial revolution 4.0 (Rose Alinda et al., 2017).

In Malaysia, MOOCs are a recent phenomenon in online learning that fall in tandem with two important national plans. First is the Malaysia Education Blueprint for Higher Education (2015-2025) which outlines ten shifts that will spur continued excellence in the nation’s higher education system. All ten shifts address key performance issues fundamental to achieving Malaysia’s aspiration to provide her citizens with better access to quality education. Shift Nine mentioned in the

blueprint describes Malaysia’s aspiration to establish Global Online Learning (GOL) (Ministry of Education, 2015), and one of the indicators to determine the achievement of GOL is the establishment of Massive Open Online Courses. MOOCs aim to make online learning an integral component of higher education and lifelong learning, starting with the conversion of common undergraduate courses into MOOCs, and requiring up to 70% of the programmes to use blended learning models.

The second important national plan which encourages MOOC development is the National Economic Model and Economic Transformation Program (11th Malaysia Plan, 2016-2020). In the 11th Malaysia Plan, the focus is to improve the quality of education for better student outcomes and to strengthen the role of higher learning institutions (HLIs) as a conduit for innovation by encouraging the launching of MOOCs. In Malaysia, the government has launched MOOCs in niche areas of expertise to make online learning an integral component of teaching and learning in higher education. It provides support for eligible HLIs in establishing the required cyber infrastructure in areas where none has existed yet (Ministry of Economic Affairs, 2015). Furthermore, MOOCs also support high impact educational practices in the curriculum implementation in higher education (Ghazali et al., 2020).

MOOCs are still at an early stage of implementation in Malaysia. All MOOCs in Malaysia are offered through Open Learning. In this regard, MOOCs are

now considered as an essential medium for Malaysian universities to disseminate knowledge conveniently to a large number of students (Daneji et al., 2019; Habibah et al., 2016). MOOCs have been identified as a potential innovation for improving traditional teaching and learning in order to respond to the technologically-driven environment of 21st century education. Due to the recent development and exploratory nature of the MOOC initiative in Malaysia, it is clear that there are many issues to identify and gaps to close. Currently, gaps in the current MOOC initiatives show plenty of room for improvement (Ghazali & Nordin, 2016; Hudiya et al., 2017). Poor completion and high dropout rates were reported to be the main challenges of MOOCs, both locally and internationally (e.g. Almahdi & Sulfeeza, 2017; Goh, 2017; Hakami et al., 2017). Nordin et al. (2015b) in their research on MOOC acceptance in Malaysia revealed that more than half of the students felt that they could not complete the tasks in MOOCs if no instructor was there to instruct and guide them. It was discovered that more than half of the students (50.9%) had low levels of MOOC efficacy and were not able to perform the learning tasks without explicit supervision.

One of the reasons why MOOCs had such low completion and high dropout rates could be the lack of development of positive self-efficacy beliefs among the course takers (Branson, 2017; Hodges, 2016; Wang & Baker, 2015). The findings revealed that students who completed the course tended to have higher self-efficacy

beliefs. Basically in the Malaysian context, most studies on MOOCs concentrated on perceptions, acceptance and challenges (e.g. Abdul Rahman et al., 2015; Daneji et al., 2018, 2019; Fadzil et al., 2015; Ghazali & Nordin, 2016; Goh, 2017; Kruchinin, 2019; Nordin et al., 2015b), leaving much gap for a large exploration of self-efficacy in MOOCs (Almahdi & Sulfeeza, 2017; Ghazali & Nordin, 2016; Ghazali et al., 2020). Very limited research has been done to identify students' MOOC efficacy, develop MOOC-efficacy scales, and test measurement models related to MOOCs and the self-efficacy construct.

Based on the review on measures of students' self-efficacy in an online learning environment, there is relatively a lack of attempt to develop a valid instrument to measure students' self-efficacy specifically in the context of MOOCs. Most of the instruments focused on measuring students' self-efficacy in an online learning environment. The same problem exists in the measurement model of students' self-efficacy in MOOCs; this aspect seems to be neglected (Ghazali & Nordin, 2016; Willis et al., 2013). Based on the previous literature, self-efficacy seems to be a crucial factor that needs to be emphasized to improve MOOC implementation specifically in Malaysia. Moreover, research that involves model and scale development in MOOCs has been identified as crucial in order to improve MOOC implementation (Ghazali & Nordin, 2016; Zawacki-Richter et al., 2018). Due to the importance of self-efficacy beliefs in MOOCs (Branson, 2017; Wang & Baker,

2015) and the need for research on MOOC-
efficacy in the Malaysian context (Almahdi
& Sulfeeza, 2017), this research aims to
develop and evaluate a measurement model
on higher education students' MOOC-
efficacy.

LITERATURE REVIEW

MOOCs at the Malaysian Higher Education Institutions

MOOCs are still at the early stage of their
implementation in Malaysia, even though
they have gained a lot of recognition in
other countries especially the USA and the
United Kingdom. Malaysia's first institution
to launch a MOOC was Taylor's University
in 2013. Taylor's University aims to give
its faculty members the opportunity to
explore new delivery methods through
the use of technology (Digital News Asia,
2014). In September 2014, the Ministry of
Education Malaysia introduced four courses
in MOOCs with four universities elected
as content designers for the Malaysian
MOOC. The courses are foundation or
compulsory courses that must be taken by
undergraduates in Malaysian universities.

The instructors of all the four courses are
free to plan their instructional processes by
utilizing MOOCs in a blended learning mode,
according to their respective universities
(Ministry of Education Malaysia, 2015).
Blended learning is a teaching practice that
combines the traditional face-to-face mode
of teaching with the web-based teaching and
learning (Embi et al., 2014). This initiative
is a collaborative effort of various parties at
all levels with the aim to improve the quality

of teaching and learning at Malaysian higher
education institutes. All MOOCs in Malaysia
are offered through Open Learning which is
considered Malaysia's National MOOC
platform. Continued growth in MOOCs
was an essential part of the Ministry of
Education Malaysia's strategic plan to
increase the quality and accessibility of
higher education in Malaysia. MOOCs
have challenged universities to renew their
focus on teaching and to upskill their course
design teams to ensure that they can develop
better MOOCs.

The significant increase in the number
of MOOCs meant that more planning and
coordinating among universities were
needed. In spite of the new status of MOOCs
in Malaysia, few studies have shown
that MOOCs in Malaysia are likely to
undergo various developments in the next
several years. There are few studies on
MOOCs in the Malaysian context that were
aimed at improving the implementation
of MOOCs in the country (Ghazali et al.,
2020). Most of the studies were conducted
to investigate perceptions of teaching and
learning in MOOCs (e.g., Abdul Rahman
et al., 2015; Fadzil et al., 2015; Ghazali
& Nordin, 2016). Meanwhile, Nordin
et al. (2016) and Habibah et al. (2016)
conducted researches to examine factors
for teaching and learning in the Malaysian
MOOC. Findings revealed that 'content'
was the major factor in predicting teaching
and learning enhancement because it was
considered to be a fundamental aspect in the
success of MOOCs.

Fadzil et al. (2016) and Nordin et al. (2015b) sought to investigate the MOOC readiness level and technology acceptance of MOOCs in the Malaysian higher education institutions, respectively. The findings indicated that self-efficacy and self-directedness were significant for MOOC readiness (Fadzil et al., 2016). In terms of technology acceptance of MOOCs, Nordin et al. (2015b) revealed that students accepted MOOCs as a technology for learning and this conclusion was made based on the aspects mentioned in the Unified Theory of Acceptance and Use of Technology (UTAUT) model. The model includes five factors which are: 1) performance expectancy; 2) effort expectancy; 3) social influence; 4) facilitating conditions; 5) behavioural attention as well as three other Non-UTAUT factors: 6) attitude; 7) self-efficacy and 8) anxiety. One of the important findings indicated that more than half of the students who had a lower level of self-efficacy were not able to perform tasks in MOOCs without supervision.

A recent study conducted by Goh (2017), examined students' perceptions of their learning experience throughout a course in MOOCs. The research also discussed the effectiveness and challenges of MOOC learning. The findings revealed that the prime challenges of MOOC learning were the sustainability of course participants and their completion rates. The top five reasons discovered for not completing the course were the lack of time, poor internet connection, the loss of momentum as the course progressed, the difficulty in

following the course in English language and the inability to search for relevant materials. Similar issues of dropout and low completion rates were also discussed in a study by Almaahdi and Sulfeeza (2017) where a preliminary review of the challenges of MOOCs was conducted. The research identified factors that correlated with the likelihood of dropout rates and provided suggestions for improvement. The factors which were considered crucial for high dropout rates in MOOCs were the lack of time, student motivation, interactivity in MOOCs, the feeling of isolation, insufficient knowledge or skills and hidden costs. The research also highlighted the difficulties in determining MOOC-efficacy due to limited accessibility to all MOOC learners and thus recommended studying MOOC-efficacy in depth for future research.

MOOCs and Self-Efficacy

Although MOOCs are utilized throughout the world, they face two major challenges, namely poor completion rates (reported to be between 5% and 15%) and high dropout rates (Almaahdi & Sulfeeza, 2017; Chiam, 2016; Goh, 2017; Greene, Oswald, & Pomerantz, 2015). One of the reasons why MOOCs had such low completion and high dropout rates could be the lack of development of positive self-efficacy beliefs among the course takers (Branson, 2017; Hodges, 2016; Wang & Baker, 2015). The relationship between student motivation and efficacy with the completion of MOOCs was examined by Wang and Baker (2015). The findings revealed that students who

completed the course tended to have higher self-efficacy beliefs. The same finding was revealed by Branson (2017) in his research on academic self-efficacy and MOOC completion rates among adult learners. Both researchers had concluded that self-efficacy beliefs were important to determine the success of MOOCs and gain higher completion rates.

In the Malaysian context, there is relatively little empirical research focusing on MOOC-efficacy, specifically in the Malaysian context. Most studies on MOOCs concentrated on perceptions, acceptance, challenges and factors for usage (Abdul Rahman et al., 2015; Almahdi & Sulfeeza, 2017; Fadzil et al., 2015, 2016; Ghazali & Nordin, 2016; Goh, 2017; Habibah et al., 2016; Nordin et al., 2015b; 2016), leaving a gap for a larger exploration of self-efficacy and MOOCs (Almahdi & Sulfeeza, 2017; Ghazali & Nordin, 2016). Fadzil et al. (2016) and Nordin et al. (2015b) in their research, underlined that self-efficacy was the most important factor that influenced readiness and acceptance of MOOCs in Malaysia. However, the number of items that measured self-efficacy in the context of MOOC readiness was only five (Fadzil et al., 2016) and there were only three items in the research on MOOC acceptance by Nordin et al. (2015b). Therefore, their research was inadequate to measure the construct of efficacy comprehensively especially, in the context of the Malaysian MOOC.

Previous scholars have recommended that future research focus on and investigate student's MOOC-efficacy for a variety of

target audiences and contexts to develop a successful MOOC platform (e.g. Almahdi & Sulfeeza, 2017; Padilla Rodriguez & Armellini, 2017; Terras & Ramsay, 2015). Furthermore, a dearth of scholarly literature on MOOCs suggests that comparable models of educational research into MOOC-efficacy may help align the theory of participation with the empirical results of low completion rates in MOOCs (Willis et al., 2013). Based on the previous literature, students' MOOC-efficacy seems to be a crucial factor that needs to be emphasized to improve MOOC implementation in Malaysia.

Students' MOOC-Efficacy

Self-efficacy is a psychological construct, which discusses in general an individual's belief in his or her capability of handling particular tasks and challenges. This phenomenon basically involves human cognition; what an individual think about himself or herself. Recent developments in and the characteristics of MOOCs have led students to feel isolated, lonely and not connected (Almahdi & Sulfeeza, 2017; Kilgore & Lowenthal, 2015) thus, indicating the need for students to be responsible for their own learning and knowing their capabilities through the learning process in MOOCs (Fadzil et al., 2016; Nordin et al., 2015a). With reference to the previous discussion, students' self-efficacy is defined as a student's perception of his or her own ability to perform a specific task successfully (Bandura, 1986; Cartwright & Atwood, 2014; Padilla Rodriguez & Armellini, 2017). Students' MOOC-efficacy in the context

of this research refers to students' beliefs in their capabilities to perform a specific learning task in the context of MOOCs. Students in this research are referred to those students who are in the Malaysian Higher Education Institutions.

Due to the personalized learning environment in MOOCs, students have to recognize their capabilities to search for relevant information (Goh, 2017; Nordin et al., 2015a; Padilla Rodriguez & Armellini, 2017), seek academic help and pose questions during their learning process in MOOCs (Fadzil et al., 2016; Nordin et al., 2015a). Terras and Ramsay (2015) proposed that further insight be gained to examine internal factors such as students' efficacy, to understand learners' expectations and how they cope with specific challenges that are associated with MOOCs. Moreover, students' capabilities to learn in a MOOC environment and engage in MOOCs practically, are very important for the success of MOOCs (Almahdi & Sulfeeza, 2017; Fadzil et al., 2015, 2016; Nordin et al., 2015a, 2016).

Self-efficacy beliefs tend to be domain-specific and are best assessed in relation to specific skills (Wang & Baker, 2015). Every new or different-context task encountered by an individual initiates a formulation of self-efficacy beliefs regarding his or her performance of the task in that specific context (Hodges, 2016). The students' MOOC-efficacy construct and the underlying dimensions will be discussed in the next subtopic.

Dimensions of Students' MOOC-efficacy

Students' MOOC-efficacy in this research was measured and conceptualized in four dimensions: (i) information searching; (ii) making queries; (iii) MOOC learning and iv) MOOC usability, all of which were adapted from the Internet-Based Learning Environment scale (SIBLE) (Chen, 2014). Chen (2014) stood out as the most relevant to the present research in terms of providing a framework that could be a guide to measure the required aspects of students' MOOC-efficacy. Chen (2014) proposed that students' self-efficacy in internet-based learning environments (SIBLE) was a construct that comprised five dimensions. The SIBLE seems to be a promising scale to capture the elusive concept of students' self-efficacy, because it has good psychometric properties and assesses a wide range of competencies which are important for a virtual learning environment (Chen, 2014; Ching et al., 2014; Cheng & Tsai, 2011). SIBLE was developed from a combination of two survey instruments, one on online academic-help-seeking (OAHS) behaviour and the other, on web-based learning self-efficacy (WLSE). OAHS consists of 3 dimensions namely, information-searching, formal query and informal query. Meanwhile, the items on WLSE generally measure the integration of two concepts which are web-based learning and web-based usability function.

To further refine Chen's (2014) five dimensions of SIBLE, an extensive number of empirical studies on students' self-efficacy and MOOCs (Almahdi & Sulfeeza,

2017; Cartwright & Atwood, 2014; Fadzil et al., 2015; 2016; Ghazali & Nordin, 2016; Goh, 2017; Hodges, 2016; Nordin et al., 2015a; 2016; Padilla Rodriguez & Armellini, 2017) were reviewed. Based on this extensive review, information searching was adopted as the first dimension of the students' MOOC-efficacy construct in order to measure students' capabilities to search for relevant information (Goh, 2017; Nordin et al., 2015a; Padilla Rodriguez & Armellini, 2017). For the second dimension, the researcher decided to adapt and merge the formal and informal queries into a single dimension and term it as making queries. The formal query in SIBLE measures students' capabilities to ask instructors questions in an Internet-based learning platform, while the informal query measures their ability to make enquiries generally in other Internet-based platforms. This decision was made based on the research scope, which covered only a single MOOC and involved no other Internet-based learning platform. In addition, the findings of a preliminary study and the supporting literature further encouraged the researcher to reach the decision. The making-queries dimension measures students' capabilities to seek academic help and pose questions during their learning process in MOOCs (Fadzil et al., 2016; Nordin et al., 2015a). For the other two underlying dimensions, the researcher adapted the two dimensions of WLSE for the MOOC context, i.e. MOOC learning and MOOC usability. These two dimensions measure students' capabilities to learn in the MOOC setting and engage in MOOCs

practically, and they are very important elements for MOOC success as mentioned by Almahdi and Sulfeeza (2017), Fadzil et al. (2015, 2016) and Nordin et al. (2015a, 2016). The underlying dimensions of the students' MOOC-efficacy in this research is presented as follows.

(i) Information Searching. Tsai and Tsai (2003) stated that students with a higher internet self-efficacy possessed better information searching strategies and learned better than their counterparts. Students with high self-efficacy in internet-based learning environments believe in their capabilities to search for information by using web-based learning features (Chen, 2014). For instance, in a MOOC environment, the online interaction features and information links given could be used to search for information (Ghazali et al., 2018). By using online interaction features, students would be able to discuss with other MOOC learners or instructors as one of the alternatives to obtain information in MOOCs. The inability to search for and access the relevant materials in MOOCs was found to be among the top five reasons for not completing a course in MOOCs (Goh, 2017). Students learn on their own in MOOCs and they need to know how to obtain the relevant information by using features available in it. There are many universities and other entities offering MOOCs but they do not adhere to one standard MOOC design or set of features (Greene et al., 2015; Toven-Lindsey et al., 2015) to search for information. Students have to know and

explore the available features in MOOCs to obtain information (Nordin et al., 2015a). Information searching dimension in the context of this research is defined as students' capabilities to search through the massive materials and volumes of input given by the MOOC instructor and other learners for relevant information, and extract the information using the various MOOC features provided (adapted from Chen, 2014; Goh, 2017; Nordin et al., 2015a; Padilla Rodriguez & Armellini, 2017).

(ii) Making Queries. Students' capabilities to make queries, seek academic help and clear up questions throughout their learning process are very important in an online learning environment (Chen, 2014) and for higher MOOC completion rates (Fadzil et al., 2016; Nordin et al., 2015a, 2016). The presence of support systems such as other MOOC students, instructors and administrators could help the students clear up questions on MOOCs (Nordin et al., 2015a; Rai & Chunrao, 2016). The feeling of isolation was revealed as one of the crucial factors for high dropout rates in MOOCs (Almahdi & Sulfeeza, 2017). This is in line with the research carried out by Nordin et al. (2015b), which revealed that more than half of the students (50.9%) perceived that they could not complete the tasks in MOOCs if there was no one to instruct them to act. A probable solution would be to integrate the concept of "mentors" in a MOOC learning environment as a form of support system. The mentors or the support system would be part of the MOOC community who

would give students feedback when they face difficulties or require guidance and assistance especially in MOOCs (Nordin et al., 2015b). Constructive feedback could be useful for students who need assistance during their learning process. The context of making queries in this research is described as students' capabilities to make queries using the relevant MOOC features and support systems (adapted from Almahdi & Sulfeeza, 2017; Chen, 2014; Fadzil et al., 2016; Nordin et al., 2015a).

(iii) MOOC Learning. The term MOOC ('massive', 'open', 'online', 'course') represents the key factors that determine the characteristics of a MOOC learning. MOOCs allow a massive number of students to be enrolled and materials to be uploaded due to the concept of open-based online learning environment (Nordin et al., 2015a). The MOOC initiative has attracted a massive number of learners since its launch. MOOC learners are massive, diverse and from different backgrounds. A large number of students are gathered in a centralized hub to study a certain subject matter in MOOCs (Grover et al., 2013; Siemens, 2013). In addition, the MOOC platform has transformed the context of learning in which learners can learn outside the 'boundaries of learning institutions' (Nordin & Norman, 2018). MOOC learning dimension refers to students' capabilities to engage meaningfully with a massive number of learners and learning materials. This dimension also measured students' capabilities to learn in an open online learning environment (adapted

from Almahdi & Sulfeeza, 2017; Chen, 2014; Fadzil et al., 2015, 2016; Nordin et al., 2015a, 2016).

(iv) MOOC Usability. Student's ability to download, upload and engage with the learning materials in a web-based learning environment is referred to as web-based usability efficacy (Chen, 2014). Web-based usability efficacy discusses students' capabilities to engage with the learning features and materials in certain web-based learning platforms. In a MOOC environment, learning materials and learning tasks are essential elements for the learning process (Nordin et al., 2016). Through the open-based learning concept in MOOCs, students would require a higher level of management skills to use and understand the learning materials and complete the learning tasks. Students' capabilities to manage the learning materials and tasks in MOOCs show that the students are capable of using the MOOC platform effectively (Nordin et al., 2015b, 2016). Insufficient skills and limited ability to use MOOCs were revealed as crucial factors for high dropout rates in MOOCs (Almahdi & Sulfeeza, 2017). The MOOC usability dimension in this research is described as students' capabilities to use the learning features in a MOOC platform. In other words, this dimension measured the degree of students' capabilities to engage with the content and learning tasks in MOOCs (adapted from Almahdi & Sulfeeza, 2017; Chen, 2014; Fadzil et al., 2015, 2016; Nordin et al., 2015b, 2016).

MATERIALS AND METHODS

This research applied cross-sectional survey design. The data was collected through a structured survey questionnaire.

Survey Instrument

In developing the items of students' MOOC-efficacy, the following steps and procedures were adapted from The Standards for Educational and Psychological Testing (APA, AERA & NCME, 2014). Content validity ratio (CVR) is used for measuring the content validity of students' MOOC-efficacy factor in this research. The pilot study administered in this research is intended to check whether the items were clear in meaning to respondents and to establish the instrument's construct validity and reliability. The pilot study was administered to two hundred and eighty-nine ($n = 289$) students who volunteered to fill in the questionnaire. They all had an experience with MOOCs. Data from the pilot sample was analyzed to examine construct validity and reliability of the instrument. The data collected in the pilot study was subjected to an Exploratory Factor Analysis (EFA) and the findings of the analysis suggest that the 23 items loaded well into four dimensions to represent students' MOOC-efficacy and the measurement instrument achieved acceptable reliability ranging from 0.822 to 0.890. Table 1 indicates the dimensions and sample items for each underlying dimension of students' MOOC-efficacy.

Table 1
Dimensions and sample items for each underlying dimension of students' MOOC-efficacy

Underlying Dimension	Total no. of items	Sample Items	Sources
Information Searching	3	<p>When I need to search for information while using a MOOC, I am able to...</p> <ol style="list-style-type: none"> 1. use online interaction features to get information 2. use links attached to other relevant information websites 3. seek relevant information from the massive MOOC material 	Chen (2014); Goh (2017); Nordin et al. (2015a); Padilla Rodriguez & Armellini (2017)
Making Queries	7	<p>When I face difficulties in a MOOC, I can...</p> <ol style="list-style-type: none"> 1. request help using 'HELP DESK' features 2. seek other learners/peers to share learning problems 3. seek advice from a MOOC instructor 	Almahdi & Sulfeeza (2017); Chen (2014); Fadzil et al. (2016); Nordin et al. (2015a)
MOOC Learning	6	<p>I experience no difficulties...</p> <ol style="list-style-type: none"> 1. learning in a MOOC as an online learning environment 2. accessing learning materials in a MOOC at all time 3. exploring learning materials in a MOOC (without any limitation) 	Almahdi & Sulfeeza (2017); Chen (2014); Fadzil et al. (2015, 2016); Nordin et al. (2015a, 2016)
MOOC Usability	7	<p>It is easy for me to...</p> <ol style="list-style-type: none"> 1. upload learning materials/assignments in a MOOC 2. engage in forum/comment/discussion in a MOOC 3. capture the basic concepts taught in a MOOC 	Almahdi & Sulfeeza (2017); Chen (2014); Fadzil et al. (2015, 2016); Nordin et al. (2015b, 2016)

Data Collection Procedure

Data collection for the actual study was conducted in three public Universities in Malaysia (i.e. Universiti Putra Malaysia (UPM), Universiti Sains Islam Malaysia (USIM) and Universiti Teknologi Mara (UTM)). The study population was identified as university students who have had some experience with MOOCs and who willingly volunteered to participate in the research (N=1,524). The population was decided as such so that the study could have a clear sampling frame to make simple random sampling possible. The respondents were selected randomly from the sampling frame based on Krejcie and Morgan's (1970) guidelines for choosing a minimum sample size. Subsequently, using a random generation of numbers in SPSS, the researcher selected 50% of students in the sampling frame (n = 1,524 students) as respondents. In total, 762 copies of the questionnaire were distributed.

At the start of the data collection, the researcher gave a short briefing to explain the research, its purpose and how to respond to lecturers and students. Students were given 15 minutes to complete and return the questionnaire as soon as possible. The time was sufficient for them to respond on the spot, thereby minimising the risk of losing the questionnaire. From the 762 copies distributed, some 657 were returned, transforming a response rate of 86.22% to 100% was not possible for two reasons: (1) some students were absent from class on the day the survey was conducted, (2) others appeared to have dropped the course

and could not be contacted. However, 34 questionnaires were not usable as they contained missing data. According to Sekaran and Bougie (2011), a 75% return rate is required for a research to fulfil its purpose and objectives. Thus, the return rate of 81.76% (n = 623) obtained in the study was more than desirable.

Data Analysis Procedure

The data collected was analyzed using Analysis of Moment Structures (AMOS). Confirmatory Factor Analysis (CFA) was conducted in order to empirically test the model of students' MOOCs-efficacy. Test of the validity and reliability of the instrument is in accordance to the standard procedure (Gan et al., 2012; Nasab et al., 2015; Sahranavard & Hassan, 2015).

RESULTS AND DISCUSSIONS

Confirmatory Factor Analysis

CFA was carried out to test the goodness of fit of variables measuring in the studies. Figure 1 shows the measurement model of students' MOOC-efficacy. The students' MOOC-efficacy measurement model includes four dimensions, namely information searching (IS), making queries (QU), MOOC learning (ML) and MOOC usability (MU). First, the degree of correspondence between the theoretical constructs and the observed data was assessed using goodness of fit (GOF) indices. The fit statistics, presented in Figure 1, indicate adequate fit between the measurement model and the data: RMSEA = 0.061, CFI = 0.935 and a normed chi-square (χ^2/df) = 3.322. According to Hair

et al. (2010), a hypothesized conceptual model that demonstrates a RMSEA value of < 0.08 , a CFI value of ≥ 0.90 and a normed chi-square value of $2.0 \leq \chi^2/df \leq 5.0$ is accepted as having fulfilled the conditions of a valid measurement model. Thus, the indices of the MOOC-efficacy measurement model are within the acceptable parameters. Table 2 represents the fitness indices for the measurement model of students' MOOC-efficacy.

Convergent Validity and Reliability

The standardized factor loadings, composite reliability (CR) and average variance explained (AVE) values for the final measurement model of students' MOOC-

efficacy are presented in Table 3. The z-score critical ratios are all outside the -1.96 and 1.96 range with p-values less than 0.001 for every measurement item indicating their statistical significance. According to Awang (2015), a factor loading of 0.6 and above for each item would indicate a high convergent validity. In this research, the factor loading of all the items are greater than 0.6 with a minimum value of 0.647. The AVEs of all four dimensions of the model (information searching, making queries, MOOC learning and MOOC usability) were greater than 0.5. Additionally, the CR value was greater than 0.7, therefore giving further evidence to support the convergent validity of the measurement model.

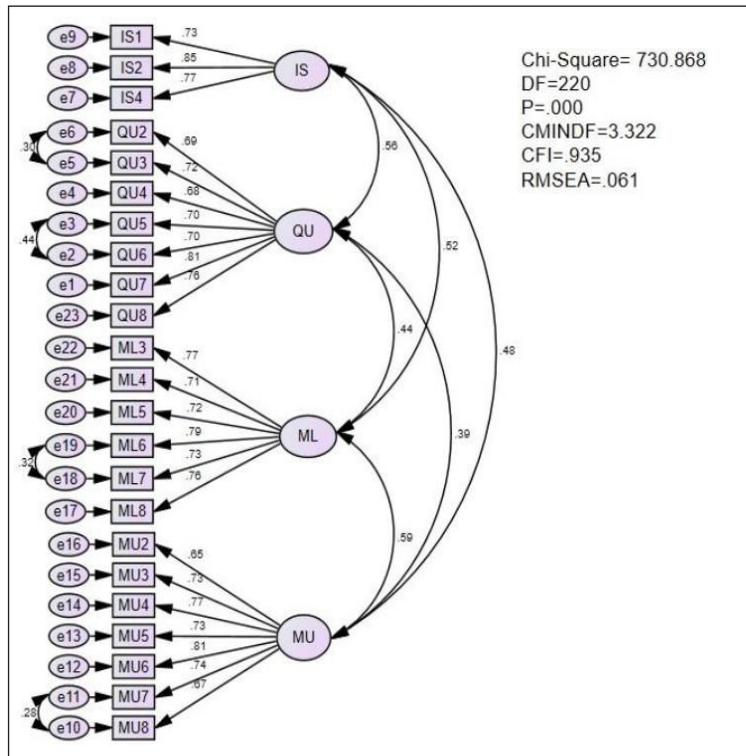


Figure 1. Measurement model of students' MOOC-efficacy

Table 2
Fitness indices for measurement model of Students' MOOC-efficacy

Parameter	No. of items remaining	RMSEA (<0.08)	CFI (>0.90)	Normed χ^2 (<5.0)	p-value (p > 0.001)
Students' MOOC-efficacy	23	0.061	0.935	3.322	0.000

Table 3
Standardized factor loading, CR and AVE for students' MOOC-efficacy

Dimensions	Items	Factor Loading	P	CR	AVE		
Information searching (IS)	IS1	0.732	NA	0.827	0.615		
	IS2	0.848	***				
	IS4	0.769	***				
Making Queries (QU)	QU2	0.694	NA	0.885	0.524		
	QU3	0.718	***				
	QU4	0.676	***				
	QU5	0.704	***				
	QU6	0.703	***				
	QU7	0.806	***				
	QU8	0.757	***				
	ML3	0.770	NA			0.884	0.560
ML4	0.709	***					
ML5	0.722	***					
ML6	0.787	***					
ML7	0.733	***					
ML8	0.764	***					
MOOC learning (ML)	MU2	0.647	NA	0.888	0.533		
	MU3	0.732	***				
	MU4	0.767	***				
	MU5	0.728	***				
	MU6	0.813	***				
	MU7	0.742	***				
	MU8	0.669	***				

Note. IS means information searching; QU means making queries; ML means MOOC learning; MU means MOOC usability. :NA is for items with the weight fixed to 1, *** denotes p-value <0.001.

Two assessments were used to establish the reliability of the measurement model, i.e. composite reliability (CR) and the AVE, and both assessments returned acceptable results. CR is an alternative measure to the

Cronbach's alpha; it is recommended by Chin (1998) as an ideal measure to overcome some deficiencies in the Cronbach's alpha. The CR should be 0.60 or higher, while the minimum threshold for an AVE should be

0.5 or higher to indicate adequate reliability (Awang, 2015). The CR values for all four students' MOOC-efficacy factors were high, ranging between 0.827 (information searching) and 0.888 (MOOC usability). Their AVE indices also met the minimum threshold of 0.5, ranging between a low of 0.524 (making queries) and a high of 0.615 (information searching).

Discriminant Validity

The evidence for discriminant validity is summarized in Table 4. Each factor's AVE is presented diagonally in the table. The inter-factor correlations are located above the diagonal, while the squared inter-factor correlation coefficients (also known as shared variance, SV) are presented below the diagonal. The model's discriminant validity was evidenced by the AVE factors, which were higher than the squared shared variance (SV) for all the constructs (Fornell & Larcker, 1981). All the inter-factor correlation values in the model were below 0.85, thus also providing strong evidence for discriminant validity (Awang, 2015).

All the statistics provide empirical evidence that the measurement model of students' MOOC-efficacy is

psychometrically sound in terms of validity and reliability. Researchers and psychometricians both agree that a valid and reliable measure in behavioural research is very important, as no valid conclusions about a phenomenon could be made without valid measurement (Creswell, 2012; Hair et al., 2010). Self-efficacy is multidimensional (Bandura, 2000; Chen, 2014; Ching et al., 2014) and tends to be domain-specific. Therefore, it is best assessed in terms of specific skills (Wang & Baker, 2015). The findings of this research show that students' MOOC-efficacy is a multidimensional construct consisting of four valid and reliable dimensions, namely (i) information searching, (ii) making queries, (iii) MOOC learning, and (iv) MOOC usability. The study also has provided evidence that students' MOOC-efficacy model exhibits convergent and discriminant validity as well as acceptable reliability.

The main theoretical implication or contribution of this research is the four-factor measurement model of students' MOOC-efficacy. This measurement model has enabled the researcher to measure four factors of students' self-efficacy in a MOOC platform, an area which is scarcely studied.

Table 4
Discriminant validity test outcomes

	IS	QU	ML	MU
IS	0.615	0.309	0.271	0.232
QU	0.556	0.524	0.193	0.151
ML	0.521	0.440	0.560	0.354
MU	0.482	0.388	0.595	0.533

Note. IS means information searching; QU means making queries; ML means MOOC learning; MU means MOOC usability.

The model may also help to identify which factors in students' MOOC-efficacy that contribute the most to low completion rates, or "lurkers", in MOOCs (Willis et al., 2013). Thus, efforts to increase the completion rates can be developed and implemented in light of teaching and learning theories, as well as to fulfill learners' preferences and needs (Pili & Admiraal, 2017). The findings from this research have generated some insights that help to address the gap in the understanding of the link between MOOCs and self-efficacy mentioned by Almaahdi and Sulfeeza (2017) and Ghazali and Nordin (2016). In terms of practical implications, this research has produced a psychometrically sound instrument to measure students' MOOC-efficacy. The use of the validated MOOC-efficacy instrument may provide insightful information to students, instructors or lecturers, and higher learning institutions. Students can measure their level of MOOC-efficacy to make necessary improvements to increase their MOOC learning success. The scores may also assist lecturers or instructors in knowing their students' MOOC-efficacy levels in general and in specific dimensions. The findings will assist in designing professional development programs by higher learning institutions or any authorized organization.

On the other hand, this research is not free from limitations. The first limitation was the study's reliance on just one source of data--the self-reported students' MOOC-efficacy questionnaire. Thus, there is limitation in terms of getting a complete picture of the data. This is due

to a number of reasons. First, respondents of a self-reported questionnaire may not be completely truthful in their responses, may lack the self-awareness to answer the questionnaire items correctly, or may not understand the importance of the study. Therefore, the data collected cannot be guaranteed as very accurate. Document analysis and other forms of quantitative or qualitative methods such as interviews and observations could have given richer data. Another limitation of this research is the response rate and data provided. The study's response rate was beyond the researcher's control. The data provided by the students represented their beliefs at the particular point in time when the survey was administered. Their beliefs may vary at different points in time. In addition, the researcher also had no control over factors that may have influenced students' responses such as their emotion and mental stability while answering the questionnaire, or may be students answered the questionnaire in a rush due to some personal matters need to attend to.

CONCLUSION

This research has contributed a new perspective to current literature on students' self-efficacy in the context of MOOCs and the measurement of students' MOOC-efficacy. It can be concluded that the proposed model supports students' MOOC-efficacy exploration in this research. It has produced an adequate measurement model and a psychometrically sound instrument of students' MOOC-efficacy. The final

dimensions of students' MOOC-efficacy are information searching; making queries, MOOC learning and MOOC usability. All the dimensions can be assessed by 23 items developed in this research. The information generated from the instrument can be utilized to determine the training needs of students, as well as those of lecturers and instructors. Furthermore, the COVID-19 pandemic wave has changed the educational landscape for higher education and increased the number of MOOCs' active users. As a result it is mandatory that MOOC providers or instructors develop quality courses, provide new user-friendly features and interactive material to attract and sustain students' interest, thereby increasing their motivation and efficacy in accessing MOOCs.

ACKNOWLEDGEMENT

We received no particular grant for this research. We would like to thank the co-researchers for their wonderful collaboration.

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Field Dependent vs. Field Independent EFL Learners' Perceptions of Their Instructors' Teaching Methods in English Language Classes

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ABSTRACT

Teachers are the core component of teaching and learning a second or foreign language; therefore, they should know what the learners consider as the most effective teachers' characteristics which may enhance their learning. Accordingly, the main aim of the present study was to compare field dependent and field independent Iranian learners in terms of their perceptions about effective language teaching. Fifty intermediate Iranian learners of English as a Foreign Language (EFL) participated in this study and three instruments were utilized to collect the data. The first instrument was Oxford Placement Test (OPT, 2001) to test the homogeneity of the EFL learners. The second instrument was Group Embedded Figures Test (GEFT) to classify field dependent learners from field independent ones and the third instrument was an effective EFL teaching questionnaire to record the participants' perceptions of effective EFL teaching. The obtained results revealed that field dependent and field independent learners had different expectations in class. That is, for field dependent learners, confidence and open-mindedness in class were important characteristics of an effective teacher while for field independent learners, teachers' knowledge and proficiency were important. Indeed, there was no significant difference between the perceptions of field dependent participants and the field independent EFL learners about the overall characteristics of an effective teacher. Knowing EFL learners' cognitive styles can open new insights in the second language (L2) domain and lead to more influential teaching.

ARTICLE INFO

Article history:

Received: 13 November 2020

Accepted: 11 March 2021

Published: 14 April 2021

DOI: <https://doi.org/10.47836/pjssh.29.S1.13>

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Keywords: Effective language teaching strategies, field dependent, field independent, language teaching

INTRODUCTION

It is clear that the teaching and learning process in English as a second language (ESL) or English as a foreign language (EFL) is a complicated process and teachers always aim at using various activities to meet this pedagogical target (Gerami & Noordin, 2013; Hassanzadeh, 2012; Ismail et al., 2012; Zare & Nordin, 2011). In times of the current pandemic, online teaching has become a new reality and with emphasis given on connectivity and interactivity, Kourieos and Evripidou (2013) indicated that “it is widely acknowledged that the most effective pathway to improve student learning outcomes is the quality of teaching, especially teachers’ ability to motivate and facilitate such learning” (p.1). This shows that a successful learning and teaching process is an interactive process between teachers and learners and being aware of inner power of both poles (in this case EFL learners and EFL instructors) and their feeling or interest can have influential effects especially on analyzing, motivating, and assisting students in language learning environments. This interactive process between educators and learners is very important in various educational environments (Gerami & Noordin, 2013). Moreover, the relations between different parties may play pivotal roles (Bastani et al., 2018). Accordingly, Williams and Burden (1997) claimed that “learner motivation is seen as one of the most powerful influences on learning and in the case of a foreign language, a fundamental factor in FL (foreign language) achievement”(p.1). Weak

foundation can be attributed to students’ motivation to learn, and the teachers’ lack of interest (Noordin et al., 2019). Indeed, EFL teachers need to be aware of the way they implement the teaching process and enhance motivation as an effective factor throughout the academic year to increase learners’ achievement. In order to do that, they really need to know what their pupils think about their teaching styles and/or strategies that are employed to bring about promotion among learners because learners who can use language learning strategies more frequently in the process of their language learning might be more successful and to achieve their educational goals (Lim et al., 2018); moreover, it is required for EFL teachers to understand how their students think about an effective language teaching in an educational process. These perceptions from EFL learners can influence teachers’ working styles and output and how their instruction can be delivered through classroom activities (Lightbown & Spada, 2013).

Field dependent and field independent are both learning styles involving mental processes introduced by Witkin et al. (1971) to resemble “the degree to which one perceives analytically or globally” (Hadley, 2003, p. 215). This is a mental ability of a person in analyzing or decoding the message and the way of analyzing, understanding or solving a puzzle which varies from person to person.

Brown (2014) indicated that field dependent and field independent styles of learning were psychological terms

that referred to individual differences. This cognitive concept deals with EFL learners' perceiving, organizing, analyzing, and experiencing through learning. Field dependent and field independent learners are under the effect of an inner tendency and because of this they behave or think differently. Brown (2014) added that Field independent involved the "ability to perceive a particular, relevant item or factor in a 'field' of distracting items" (p.114).

Chappelle and Green (1992) looked at field dependent and field independent learners comparatively in the learning domain and highlighted the major learning, thinking, perceiving or concluding aspects in a cognitive style. Chappelle and Green (1992) placed field independent person in the analytical category while according to this classification, the field dependent learner had been listed in the holistic group. Accordingly, Ahmadi and Yamini (2003) investigated Field dependent and field independent personalities based on Chappelle and Green's (1992) view and concluded that "Field independence is reported to be associated with the use of analytic strategies, while field dependence is mostly correlated with the use of global strategies (holistic strategies)" (p.62).

Objectives of the Study

This study has twofold objectives. Firstly, it is going to investigate what characteristics Field dependent and field independent EFL learners attribute to effective language teachers. Secondly, it aims at investigating if there is any significant relationship

between EFL learners' field dependent and field independent and their perceptions of effective language teaching. On the basis of the objectives of the present study, the following research questions have been formulated:

1. What are field dependent L2 learners' perceptions of effective language teaching?
2. What are field independent L2 learners' perceptions of effective language teaching?
3. Is there any significant relationship between L2 learners' field dependence and field independence and their perceptions of effective language teaching?

MATERIALS AND METHODS

Design of the Study

This study has a quantitative-survey design. The study was considered to be a survey study because the researchers utilized two main reliable questionnaires to elicit EFL learners' cognitive learning styles (field independent/dependent) and to attain EFL learners' perception about effective language teaching. Therefore, the present research included the following variables: field dependent and field independent as independent variables and perception of effective language teaching as dependent variable of the study.

Participants

As the researchers had access to the female branch of Navid language institute in Shiraz, Iran, the participants of the current

study were 50 female EFL learners. These participants were selected through purposive sampling, meaning that among the EFL learners of the above-mentioned private language institute, based on a placement test (second version of Oxford Placement Test, just 50 EFL learners, out of 80 EFL learners who were more homogeneous based on their language proficiency were selected as the final target. It is worth mentioning that the defined cut-off score in selecting the final subjects was 30-39 (lower-intermediate).

Instruments of the Study

The researchers applied a quick placement test of OPT (2001, version 2) taken from Kazemi et al. (2014) to identify homogeneous participants. This placement test included 60 questions and was divided into five sections while all the questions were designed in multiple-choices form. Test-retest type of reliability is commonly used when raters decide about the language produced by learners (Brown, 2014). The obtained correlation coefficient was .80 that is within the accepted range. According to Riazi (1990), measurement validity is the degree of fit between a construct and its indicators. With this regard, two experts in TEFL in English department in Shiraz Islamic Azad University (IAU) measure the validity of the tests. Finally, the validity, particularly the face and content validity of OPT were confirmed by these two experts.

The second instrument was metacognitive strategies questionnaire Group Embedded Figures Test (GEFT), which is a test to clarify and classify field

dependent learners from field independent ones, developed by Witkin et al. (1971). This test has been used frequently by other researchers and can be considered as the most frequently used test (e.g., Alavi & Kavayanpanah, 2009; Shahsavari & Tan, 2011). To measure the reliability of GEFT, Pearson correlation coefficient (test-retest method) was employed. The reported result was .82 which is within an acceptable reliability.

The third instrument of this research was an effective EFL teaching questionnaire to record the participants' perceptions of effective EFL teaching developed by Kourieos and Evripidou (2013). Its validity and reliability were checked too.

Procedures of the Study

First, the researchers administered Oxford Placement Test and 50 homogenous learners out of 80 available ones were selected based on their proficiency level. Then, field dependent and field independent questionnaires were administered among 50 students which lasted for 60 minutes. After that, to classify the participants as field dependent or field independent, the papers were controlled and scored based on the Group Embedded Figures Test (GEFT) developed by Witkin et al. (1971).

After determining the participants' cognitive styles (FD/FI), the researchers asked the participants to answer the effective EFL teaching questionnaire developed by Kourieos and Evripidou (2013). To measure the frequency of effective language teaching among the students, the questionnaire raised

the following question: to what extent do you believe that the following aspects are useful/effective for language teaching?

Data Analysis

To analyze the collected data and answer the research questions, the SPSS software version 21 was utilized. To address the research questions, descriptive and inferential statistics were used. Mann-Whitney U test was used to see if there was any significant relationship between students' field dependence/independence and their perceptions of effective language teaching.

RESULTS

This study sought to investigate what characteristics field dependent and independent EFL learners attribute to effective language teachers. Furthermore, this research tried to explore if there was any significant relationship between EFL learners' field dependence/independence and their perceptions of effective language teaching. First, the researchers selected 50 homogeneous participants out of 80 students using Oxford Placement Test. Then, the authors administered GEFT questionnaire to identify field dependent and field independent learners using a defined cut-off score based on Case's criteria (Cited in Mahvelati & Mukundan, 2012). Accordingly, the participants with 1.4 SD below the mean were considered as field dependent and those with 1.4 SD above the mean were considered as field independent.

The maximum possible score was 25. The higher students score the more field independent he/she would be. It is worth mentioning that those learners whose mean score was between 1.4 SD below and 1.4 above the mean were considered as field-mixed and excluded from the list. Finally, the researchers administered the effective EFL teaching questionnaire to both groups i.e. field dependent and field independent learners as presented below.

Field dependent L2 Learners' Perceptions of Effective Language Teaching

This part summarizes and explains the findings related to field-dependent L2 learners' perceptions about effective language teacher's personal and interpersonal features

Table 1 depicts information related to the total mean score of field-dependent students' idea and belief about different features of effective language teachers including personal and interpersonal ones. Items 1-8 were rated higher than the midpoint, 3. They were all related to the teachers who were considered encouraging and supportive by the learners, while item 9 achieved a lower score, showing that field-dependent EFL students did not welcome the instructor's authoritarian role. All 8 items were ranked in the above-mentioned table based on their importance. The following table summarizes the findings, which focus on the field-dependent EFL students' perceptions about English proficiency of the instructors (see Table 2).

Table 1
Personal and interpersonal features of instructors as perceived by FD learners

An effective language teacher should	N	Mean	S.D	Rank
1. Be eager to help students in and outside the classroom	29	3.5	.97	4
2. Encourages students to express and discuss their ideas for the content of the lesson.	29	3.2	1.03	6
3. Praise effort	29	3.0	.94	7
4. Be friendly to students	29	3.9	.99	3
5. Treat students fairly regardless of achievement.	29	3.4	1.26	5
6. Take into consideration students' difficulties with the F L	29	3.4	1.26	5
7. Express confidence in students' language abilities.	29	4.0	.94	2
8. Be open-minded	29	4.1	.56	1
9. Use authority to maintain discipline	29	2.6	.69	8

Table 2
English proficiency of the instructors as perceived by FD learners

An effective language teacher should	N	Mean	S.D	Rank
1. Use the FL competently	29	4.2	.99	3
2. Have a broad vocabulary in the FL	29	4.3	.82	1
3. Have a native-like accent	29	3.1	.73	5
4. Have a sound knowledge of the grammar	29	4.2	.78	2
5. Be familiar with language learning theories	29	3.9	.56	4
6. Be acquainted with the target culture	29	3.1	.99	5

Regarding the English proficiency of the instructors as perceived by FD learners, Table 2 shows that items 2, 4, 1 were reported showing higher means compared to other items in Table 1. It shows that some items in the second thematic area received higher attention, whereas items 5, 3, and 6 were reported to show lower means in the items tested. Table 3 focuses on the method used by the instructors to present, assess, and explain the new materials and content. The findings indicate that instructors who emphasised more on the use of educational materials, content, and tasks to enhance and facilitate learning demonstrated higher competence in their delivery. The following table summarizes the related data.

Table 3 depicts that between all 20 items in this table just 5 items obtained a mean score higher than 4. Items 1, 16, 2, 12, and 7 are ranked respectively based on the order of importance. On the contrary, items 17, 6, 8, 10, 19, and 11 were considered as less important or not as effective as other teaching methods.

Field Independent L2 Learners' Perceptions of Effective Language Teaching

This section tries to present and discuss the findings associated with field-independent L2 learners' perceptions with different aspects of effective language teachers.

Table 3
Teaching methods as perceived by FD learners

	An effective language teacher should	N	Mean	SD	Rank
1.	Follow the textbook rigidly	29	4.5	.65	1
2.	Make frequent use of other materials	29	4.1	.73	3
3.	Integrate computer-aided instruction into the FL classroom	29	3.4	.51	7
4.	Set activities which expose students to the target culture	29	3.4	.51	7
5.	Design or select materials according to students' major	29	3.4	.69	7
6.	Simplify his/her language to facilitate comprehension	29	3.0	.66	18
7.	Expose students to real life topics	29	3.6	.84	6
8.	Use recasts to correct students' mistakes	29	3.2	.42	14
9.	Use the FL as the predominant means of classroom communication.	29	3.3	.48	10
10.	Provide opportunities for students to use the FL beyond the classroom setting	29	3.2	.42	14
11.	Not grade language production (speaking/writing) primarily for grammatical accuracy	29	3.2	.42	14
12.	Set activities which require students to interact with each other in the FL	29	4.1	.31	3
13.	Grade written assignments predominantly for effort and content	29	3.2	.42	14
14.	Set activities which require students to work in pairs or small groups	29	4.1	.31	3
15.	Use activities which draw learners' attention to specific grammatical features.	29	3.3	.48	10
16.	Thoroughly explain new grammar rules before asking students to practice the relevant structure	29	4.2	.42	2
17.	Grade written assignments predominantly for grammatical accuracy	29	3.0	.47	18
18.	Correct students immediately after making a grammar mistake during communicative activities	29	3.3	1.05	10
19.	Address errors by immediately providing explanation as to why students' responses are incorrect	29	3.2	.42	14
20.	Set activities which require students to work individually	29	3.3	.48	10

Table 4 depicts data related to the overall mean score of field-dependent students' idea and belief about different features of effective language teachers including personal and interpersonal ones. Items 1-8 were rated higher than the midpoint, 3. They were all related to the teachers who were considered encouraging and supportive by the learners, while item 9 achieved a lower score, showing that field-

dependent EFL students did not welcome the instructor's authoritarian role. All 8 items were ranked in the above-mentioned table based on their importance. Table 5 summarizes the findings, which focus on the field-independent EFL students' perceptions about English proficiency of the instructors.

Based on this table, the highest score is 4.1 for items number 2 and 5, while the lowest number is for number 6 (mean= 2.8).

Table 4
Personal and interpersonal features of instructors as perceived by FI learners

An effective language teacher should	N	Mean	S.D	Rank
1. Be eager to help students in and outside the classroom	21	3.3	1.05	6
2. Encourages students to express and discuss their ideas for the content of the lesson.	21	3.4	.84	5
3. Praise effort	21	3	1.28	7
4. Be friendly to students	21	3	1.59	7
5. Treat students fairly regardless of achievement.	21	3.6	1.07	3
6. Take into consideration students' difficulties with the FL	21	3.6	1.07	3
7. Express confidence in students' language abilities.	21	4.2	1.03	1
8. Be open-minded	21	3.7	.48	2
9. Use authority to maintain discipline	21	2.3	.48	9

Table 5
English proficiency of the instructors as perceived by FI learners

An effective language teacher should	N	Mean	S.D	Rank
1. Use the FL competently	21	3.7	.94	4
2. Have a broad vocabulary in the FL	21	4.1	.87	1
3. Have a native-like accent	21	3.0	.66	5
4. Have a sound knowledge of the grammar	21	3.9	.87	3
5. Be familiar with language learning theories	21	4.1	.56	1
6. Be acquainted with the target culture	21	2.8	1.22	6

This shows that field-independent learners value instructors who are proficient in the English language as effective teachers. Table 6 focuses on the methods used by the instructors to present, assess, and explain the new materials and content. It concentrates on how instructors use educational materials, content, and tasks to enhance and facilitate learning. The following table summarises the related data.

Table 6 shows that only 5 items obtained a mean score higher than 4. Items 1, 16, 12, 2, and 14 were ordered respectively according to their importance level. On the contrary, items 5, 6, 13, 18, 19, and 20 were ordered respectively as the less important ones.

It can be established that EFL learners commonly desire to follow activities or procedures, which are based on communication or peer work. Moreover, students emphasize on explicit methods of teaching as a major factor of an effective teacher. On the other hand, EFL learners have less preference for individual work, having teachers explain about grammatical points in L2 classes or be corrected by them. In sum, by comparing the most and the least effective language teachers' characteristics it can be noted that students' perceptions about effective language teachers are under the effect of cognitive process. Hence, it is important to consider psychological aspects when conducting lessons with students.

Table 6
Teaching methods as perceived by FI learners

An effective language teacher should	N	Mean	SD	Rank
1. Follow the textbook rigidly	21	4.7	6.44	1
2. Make frequent use of other materials	21	4.1	.73	4
3. Integrate computer-aided instruction into the FL classroom	21	3.3	.67	12
4. Set activities which expose students to the target culture	21	3.3	.67	12
5. Design or select materials according to students' major	21	3.2	.78	15
6. Simplify his/her language to facilitate comprehension	21	3.2	.91	15
7. Expose students to real life topics	21	3.9	.87	6
8. Use recasts to correct students' mistakes	21	3.5	.84	8
9. Use the FL as the predominant means of classroom communication.	21	3.7	.82	7
10. Provide opportunities for students to use the FL beyond the classroom setting	21	3.3	.48	12
11. Not grade language production (speaking/writing) primarily for grammatical accuracy	21	3.4	.69	10
12. Set activities which require students to interact with each other in the FL	21	4.2	.42	3
13. Grade written assignments predominantly for effort and content	21	2.8	1.0	20
14. Set activities which require students to work in pairs or small groups	21	4.0	.47	5
15. Use activities which draw learners' attention to specific grammatical features.	21	3.5	.52	8
16. Thoroughly explain new grammar rules before asking students to practice the relevant structure	21	4.5	.52	2
17. Grade written assignments predominantly for grammatical accuracy	21	3.4	.96	10
18. Correct students immediately after making a grammar mistake during communicative activities	21	2.9	1.44	19
19. Address errors by immediately providing explanation as to why students' responses are incorrect	21	3.0	.66	18
20. Set activities which require students to work individually	21	3.1	.73	17

Relationship between L2 Learners' FD/I and their Perceptions of Effective Language Teaching

In order to compare EFL learners' perception about different aspects of effective teachers, Mann-Whitney U test was run on the scores obtained from sections of the Effective EFL teaching questionnaire and its total scores. Mann-Whitney U test, a non-parametric test,

is used to compare two means which belong to a single population; moreover, it is also used to examine if these two means are equal or not. The following table summarizes the results.

As depicted in Table 7, the participants did not have different perception toward personal and interpersonal features of instructors (Sig=.223), and teaching methods

(Sig=.179). However, they had different perceptions about English proficiency of the instructors, the field-independent learners consider English proficiency of the instructors more important than other variables; moreover, the effect size was

0.38 which was higher than the effect size of other variables. It should be added that the field dependent and field independent groups were not different in the total score of the questionnaire (Sig=.232).

Table 7
Mann-whitney U test on EFL learners' perception

	Group	N	Mean rank	Mann-Whitney U	Wilcoxon W	Z	Asymp. Sig. (2-tailed)	Effect size
Personal and interpersonal features of instructors	FD	29	23.38	243.0	678.0	-1.22	.223	0.192
	FI	21	28.43					
English proficiency of the instructors	FD	29	21.10	177.0	612.0	-2.54	.011	0.381
	FI	21	31.57					
Teaching methods	FD	29	27.83	237.0	468.0	-1.34	.179	-0.104
	FI	21	22.29					
Total	FD	29	23.41	244.0	679.0	-1.19	.232	-0.126
	FI	21	28.38					

DISCUSSION

The findings indicated that field-dependent L2 learners valued certain aspects in teaching demonstrated by the teachers highly compared to others. Some of these aspects include expressing confidence in students' language abilities, being open-minded, making frequent use of other materials, setting activities which require students to interact with each other in the foreign language setting, activities which require learners to work in pairs or small groups, and thoroughly explaining new grammar rules before asking the students to practice the relevant structures. This result may be due to FD learners' characteristics, since they are prone to interact with their

surroundings and have great interest in communicating with others. In addition, FD learners were also keener on using social media. These findings are supported by Witkin and Goodenough (1981), who stated that in the process of a mental activity through a pedagogical task, learners' tendencies and inner ability could play an effective role and led a person to utilize different styles depending on personal differences. In addition, this finding is also supported by Farsi et al. (2014) study who stated that the relationship between teaching styles and learners' preferences was heavily influenced by both learners and teachers' personality.

According to the findings of current study, field independent L2 learners believed that effective teachers have characteristics, including following the textbook rigidly, thoroughly explaining new grammar rules before asking students to practice the relevant structure, setting activities which require students to interact with each other in the FL, expressing confidence in students' language abilities, making frequent use of other materials, being familiar with language learning theories, having a broad vocabulary in the foreign language and setting activities which require students to work in pairs or small groups. The findings may be attributed to the learner's learning preference to drill activities as well as tasks that require their critical thinking skills are in line with studies of Hassanzadeh et al. (2012), Ismail et al., (2012) and Zare and Noordin(2011).

According to Ahmadi (2002) and Tehrani and Razali (2018), FD/FI EFL learners apply different techniques and strategies through language skills learning and the learners also employ various and most of the time different learning strategies. Furthermore, the results of this study are in line with Mancy and Reid (2004) who found that field independent learners preferred to separate a structure into its different parts and made a different and new structures according to what they were exposed to before.

Furthermore, the findings of the current study revealed that field dependent and field independent learners do not have different perceptions about their instructors' personal

and interpersonal features particularly on teaching methods. However, it is interesting to note that they had different perceptions about their instructors' English language proficiency where field-independent learners valued it more than field independent learners. It is worth mentioning too that learners do not have different perceptions about the overall characteristics of effective teachers. This result may be due to the fact that field dependent learners are concrete thinkers and prefer group interactions while field independent learners prefer to be involved in fixed activities. This result is in line with studies by Brown (2014) and Salmani-Nodoushan (2007) who claimed that there was a positive relationship between field-independent cognitive styles and success in learning new languages. Besides, this result concurs with Jamieson's (1992) research, where cognitive style of learning and personal difference could affect any part of language learning and development of language skills. Furthermore, this finding is also consistent with Shishavan and Sadeghi's (2009) research where they reported personality as an important factor in developing effective teachers.

CONCLUSION

To summarize, the participants did not have different perceptions about the overall characteristics of an effective teacher. According to the obtained statistical findings, there were 9 considerable items in an effective teaching process. In EFL learners' perception, some referred to

personal aspects of EFL teachers while some others dealt with interpersonal aspects of EFL teachers. When field-dependent students were asked to rate personal and interpersonal features of effective language teachers. Items 1-8 were rated higher than the midpoint, 3. They were all related to the teachers who were considered encouraging and supportive by the learners, while item 9 achieved a lower score, showing that field-dependent EFL students did not welcome the instructor's authoritarian role. It reveals that field-dependent EFL students did not desire such characteristics.

On the other hand, based on the results of the present study, field independent learners believed that an effective EFL teacher should focus on textbooks and explain the grammatical points explicitly and there must be a high level of interactive activities to promote EFL learners' confidence in the learning process. These interactive processes can be completed through group work and employing frequent use of pedagogical materials. The points which have been considered by field independent learners in general are the same as the field independent EFL learners' perceptions but the factors like being open-minded and preferring the pair work in the class over other classroom activities were also considered by field dependent learners.

Teachers and learners should consider the different factors in the process of teaching or learning the English language. These factors can either be personal or interpersonal. In this respect, the findings of the current study revealed that in teaching

English, taking into consideration EFL learners' personal traits (in this case field dependent and field independent) and their perceived output prove to be effective and can produce better results. Therefore, being aware of specific methodological activities to use and providing pedagogical attention is required. Moreover, language learning involves an integrated process and with the new changes in higher education, it is vital to be familiar not only with EFL learners' inner ability or differentiation but also with their perception about the teaching competence of the instructors. It cannot be denied that teaching during the pandemic is a new challenge for most educators and many teachers are still figuring out a style that works best for both them and students. With many students experiencing stress and anxiety over their future, teaching using ineffective methods during COVID-19 will create an overwhelming learning environment that causes frustration and disengagement.

Therefore, being familiar with the EFL learners' personal traits and their perception about what makes an effective language teacher is considered important in keeping the teaching delivery coherent and consistent with the strategies used. The COVID-19 pandemic situation has undeniably posed unprecedented challenges which requires teachers to adapt to a different teaching situation. It is crucial that policy makers realise that field dependent and field independent learners have different outlooks towards language learning. This calls for urgent initiatives to normalise

new learning environments by focusing on personal traits when planning and designing the foreign language national curriculum.

ACKNOWLEDGEMENT

This paper was extracted from an MA dissertation done at Islamic Azad University, Shiraz Branch. I would like to thank Ms. Yeganeh Sheikhi who helped a lot in preparing the last draft of the manuscript.

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Big Five Personality Traits as Predictors of Systems Thinking Ability of Upper Secondary School Students

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ABSTRACT

Developing system thinking skills among secondary school students has been set as an educational goal for years. The emerging properties of a system have recently been influenced by the characteristics of each student. Thus, this study examines the Big Five personality traits as predictors of Malaysian school students' systems thinking. Quantitative data was obtained using a standardized questionnaire with established scales (the Goldberg' International Personality Item Pool and the Systems Thinking Scale) from 196 upper secondary school students. The results indicate that personality traits affect secondary students' system thinking, and almost thirty percent of the variation in the Malaysian system thinking skill can be elucidated by its sub-domains. Although agreeableness has superior impacts on systems thinking, extraversion seems to have less importance on their systems thinking. The results also reveal the negative association between extraversion and neuroticism and systems thinking. We conclude that certain personality traits can improve systems thinking and promote students' ability to solve complex problems. The implications of these findings for the enhancement of systems thinking among school students are discussed.

Keywords: Malaysia, personality traits, systems thinking, secondary school students

ARTICLE INFO

Article history:

Received: 13 November 2020

Accepted: 11 March 2021

Published: 14 April 2021

DOI: <https://doi.org/10.47836/pjssh.29.S1.14>

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INTRODUCTION

In reaction to the COVID-19 pandemic, 107 countries have implemented national school closures. Over 862 million children and young people were impacted, which is almost half of the global students' population. The Malaysian government

announced that all schools would close indefinitely on 18 March 2020 amid fears of the COVID-19. Therefore, it interrupted the academic year of students committed to learning (World Bank, 2020). This pandemic brought the risk of the viral infection and an increase in depressive and anxiety symptoms, insomnia, anger, fear, and incidents of dropping out of school among Malaysian students and students from the rest of the world (Cao et al., 2020). Thus, the COVID-19 threat is convincing for a new argument with regard to the use of systems thinking since the challenges we face have no borders and are all interlinked, often in invisible ways. System thinking skills in secondary schools can assist students in learning during the COVID-19 crisis. System thinking skills for students provide decision-making skills for future problems that can help them incorporate lessons from the COVID-19 crisis to better prepare for systematic challenges that have yet to come. This is precisely what systems thinking would like to achieve: exploring the relationships between different parts and how they interact. In the educational domain, systems thinking and seeing society as a whole is more vital now than ever before.

Education is a crucial tool to prepare students to live and thrive in the 21st century (O'Sullivan & Dallas, 2017). Society needs individuals with the ability to face challenging socio-economic situations and solve the current COVID-19 crisis. One of these primary skills is systems thinking, which is a form of higher-order thinking

(Wang & Wang, 2011). It is defined as the skill of recognizing separate elements in the complex system of society and their interconnection and their functions that enable individuals to act and also predict the future (Arnold & Wade, 2017). According to educational scholars, the lack of systems thinking among students can affect their future decision making. Thus, schools can cultivate systems thinking among students (Behl & Ferreira, 2014). Systems thinking is also described as a type of higher-order thinking in vogue among many educational systems. Educational systems worldwide are trying to adopt systems thinking to help their students identify, understand, predict the behavior, and adapt the systems to reach individual goals and even to create new knowledge to survive in the competitive and challenging modern society (Palmberg et al., 2017). According to the above information, there are four principles of systems thinking: identifying the systems, understanding the systems, predicting the behavior of the systems, and devising the modifications to systems to produce the desired effect (Arnold & Wade, 2015).

On the one hand, there is a viewpoint that individuals need to be born with higher-order thinking skills (Hitchins, 2003). On the other hand, due to the developing nature of humans and the influence of learning in this process, scholars believe that systems thinking cannot be developed naturally because human development helps individuals to handle instant and direct surface features of challenges gradually since individuals learn from past experiences

and their cognitive abilities are limited (Sabouripour et al., 2017). Furthermore, David and Reich (2005) concluded that it could be born with system thinking, and at the same time, it needed to be taught. Thus, system thinking can be correlated with people's character traits (Arnold & Wade, 2017).

As suggested by Parks-Leduc et al. (2015), traits of personality can be defined as the set of psychological traits and a way of acting, thinking, or behaving within the individuals that are organized and can influence his or her interactions with, or adaptation to, the intrapsychic, physical, and social environment. Thus, personality traits can shape a person's reaction and adaptation to the psychological, biological, and social environments, which are part of systems thinking (Smith et al., 2019).

There are various categories of personality traits introduced by researchers. However, the Big Five personality model (i.e., openness to experience, conscientiousness, extraversion, agreeableness, and neuroticism) is an inclusive and a robust model of personality based on the general agreement derived from many years of observation by psychologists (Abdullah et al., 2016). Research has shown that systems thinking is frequently associated with cognitive personality traits (Arnold & Wade, 2017).

According to Ozer and Benet-Martinez (2006), personality has predictive relations to essential life outcomes at the individual, interpersonal, and social levels. At the interpersonal level, personality traits can

shape the quality of the social relationship. Paunonen and Ashton (2013) stated that these traits could act as predictors. For instance, Peters (2014) found that the openness to new experiences, agreeableness, and conscientiousness of personality traits could be used to predict individuals' systems thinking.

Complex Adaptive Systems Theory (CAST) mentions that various elements in the agents' systems are dependent on each other. They can learn via experiences and adapt to the environment (agent ↔ environment) and changes in the environment (Preise et al., 2018). Based on the CAST, a system comprises diverse agents that interact to adapt to the environment. The interaction between these elements can cause changes in an entire system (Onik et al., 2017). Agents in complex adaptive systems can also be represented by persons who are by nature, heterogeneous, and have diverse traits, aptitudes, and preferences (Rammel et al., 2007). Since diverse personality traits affect systems thinking, these traits allow them to readily recognize and understand other agents' interconnections, which may comprise other people, concepts, companies, or the surroundings that are multi-level in structure (Behl & Ferreira, 2014). Thus, personality traits can also affect systems thinking on how they see and understand the agents' connections, constituting a more complex environment (Davidz & Nightingale, 2008).

As theorized by CAST, systems are defined as the collection of agents with the freedom to act in unpredictable ways,

and the actions are interconnected, which can cause change to one agent's actions and the conditions of the other agent (Sammut-Bonnici, 2015). Instead of thinking positively and linearly, CAST emphasizes the importance of thinking in a complex and non-linear manner (Onik et al., 2017). There are three main elements of CAST that are suggested by several scholars. They are the diversity of agents, interactions, and environments representing the space in which the agents reside in or are connected with. The CAST elements have their attribute, behavior, and rules, which determine how they interact.

As it is, there are still many inconsistencies about the relationships between Big Five personality traits in fostering systems thinking, especially among young people. Lacking the mentioned skills also means that the students have yet to master systems thinking. Systems thinking enables students to understand complex systems. It also enables them to understand how the systems' elements interact and how to adapt and act to improve the systems based on their knowledge. Schooling is the time and place where the students will get the opportunity to develop their skills that can be used in the future. Thus, the lack of skill causes students to have trouble knowing and identifying where or when the right time and situation to apply their knowledge is. This is because systems thinking can help students to fully understand the disciplinary core ideas that will help them to develop a logical and well-organized view of the world (Verhoeff et

al., 2018). Thus, to promote and encourage systems thinking among students, the first step that needs to be taken into account is understanding how people think and see (Burnell, 2016). Going forward, this study is conducted to examine the relationship between individuals' personality traits and the systems thinking among upper secondary school students and identify which dimensions of personality trait will predict the students' systems thinking.

The Rationale for the Current Study

According to the Malaysia Education Blueprint (2013), the lower and upper secondary schools are fundamental education levels that ensure that students can obtain the thinking skills. The plans are stated in several educational policies to ensure that the development of higher-order thinking skills among students from primary to tertiary education levels can be achieved (Ahrari et al., 2016). To achieve this, The Malaysia Education Blueprint (2013) mentioned the increasing number of higher-order thinking skill's questions in examinations and the National Education Policy (NEP), Secondary School Standard Curriculum (KSSM), as well as Primary School Standard Curriculum (KSSR). Besides, the Ministry of Education Malaysia (2017) also mentioned implementing higher-order thinking skills activities and assessments in the classroom and the syllabus.

However, despite all these efforts by the Malaysian government, systems thinking is still lacking among Malaysian

school students. For example, Malaysian students' ranking in Trends in International Mathematics and Science Study (TIMSS) had dropped from 1999 to 2007 (Chien & Lajium, 2016). Besides, Malaysian students ranked at the bottom third of all participating countries in the year 2009 and 2012 Program for International Student Assessment (PISA) (Provasnik et al., 2016). The latest PISA results in 2018 showed that Malaysian students ranked below the OECD average in three fields, including reading, mathematics, and sciences (OECD, 2019). It can be interpreted that Malaysian students could not correct and recognize the familiar scientific events and could not identify whether or not the conclusion of simple cases is valid in complex situations such as exams. Thus, Malaysian students are still struggling with higher-order thinking skills. Raved and Yarden (2014) also found similar trends from students in different countries. Other studies show that a majority of Malaysian students still lack in some areas of systems thinking (e.g., Jerome et al., 2017), and it is opposite to the aim of the Malaysian education system, which is to produce students that can apply their knowledge and skills to solve problems, make decisions, be innovative, and creative. Lack of systems thinking skills does not necessarily mean that the students cannot perform well in academics. Nevertheless, it can affect the students' credibility while they are at their workplace. Thus, Malaysia's educational system emphasizes the importance of systems thinking skills to be developed early among students as soon as they start school.

LITERATURE REVIEW

Other than the importance of systems thinking in complex systems, there is a growing trend in personality psychological research dedicated to understanding how personality traits can affect and address complex system issues. Many previous studies have applied the theory of system thinking, system dynamics, and the role of system thinking in solving a complex problem in areas of the system, system approach, and comparisons of different system thinking approaches used mainly in education settings (Lawrence et al., 2019). Furthermore, Assaraf and Orion (2005) investigated the impact of high school students' systemic abilities on earth system education. Lavi and Dori (2019) showed the correlation between systems thinking on the learning tools, educational process, and thinking paradigm. In elementary and secondary education, Smolova (2019) stressed the need for a systematic approach. Dachner and Polin (2016) conducted a "management by goal" systematic approach to help companies reached a good quality decision-making process.

Currently, the emerging properties of a system have recently been influenced by personalities. Researchers studying the relations between personality and system thinking have developed and examined a wide variety of personality constructs reflecting different theoretical orientations. According to a recent study by Wright (2017), empirical factor approaches to the study of personality traits have shown that five factors account for much of the

variation in personality characteristics. These constructs reflect the continuums on the aspects of introversion-extraversion, emotional stability or neuroticism, openness to experience, agreeableness, and conscientiousness. The introversion-extraversion factor relates to individuals' sociability and introspectiveness, consisting of reserved-outgoing, quiet-talkative, and impulsivity-deliberateness (Fadda & Scalas, 2016). Neuroticism refers to emotional life, specifying opposites such as stable-labile, calm-worrying, even-temperamental, self-satisfied, and hardy-vulnerable opposites (Tackett & Lahey, 2017). Openness to experience refers to words such as inventive, original, and curious, as opposed to down-to-earth, traditional, incurious, and preferred routine (Schwaba et al., 2018). Agreeableness encompasses elements such as dubious-confident, flaky-generous, and anxious-good nature (Zufferey et al., 2019). Conscientiousness involves traits such as hard-working, well-structured, ambitious, and punctual versus their opposites, which are lazy, disorganized, aimless, and procrastinating (Lewis et al., 2018). While there may be some dispute about these five main factors' perception, there is ample evidence to support their stability and intensity for us to employ this conceptual taxonomy in presenting the literature on the relationships between personality characteristics and system thinking abilities.

Nagahi et al. (2020) stated that engineering managers were responsible for functioning in complex systems, often operating in a parallel environment

where several tasks overlapped. System skills preferences and individual system engineering managers' personality traits are also critical to solving these complex systems. Hossain et al. (2020) stated the significance of the team members' personality characteristics in the system thinking ability. Buffinton et al. (2002) suggested that the team members' personality characteristics had a possible role to play in the problem-solving styles and interpersonal dynamics and teamwork in the management project.

Another study also highlighted the intellectual abilities and personality traits of Japanese systems engineers associated with their performance (Nagahi et al., 2020). Specifically, individuals' personality types are positively associated with systems thinking practices among members of professional organizations and graduate-level students (Linder & Frakes, 2011). The findings of previous studies (e.g., Balkis & Isiker, 2005) also indicated a significant relationship between the personalities of university students and the various styles of thinking. In a similar study, Dragoni et al. (2011) showed a positive association between managers' cognitive ability (comparable to personality traits) and their critical thinking and strategic thinking. Davidz and Nightingale (2008) showed that undergraduate students' personality types positively affected their metacognitive strategies usage. They also found that there was an association between personality traits and the development of systemic thinking.

In another study, Randle and Stroink (2018) carried out a pilot study examining the association between system thinking and various personality traits, including the big five. This study results indicated that system thinking capability was only significantly associated with the openness to experience and agreeableness. If this hypothesis is right, it may be feasible to enhance the system thinking by employing means similar to those useful for increasing the functioning of fluid intelligence. The results of this study also showed that openness to experience was associated positively with four cognitive and reasoning skills: crystallized intelligence, verbal episodic memory, fluid intelligence, and speed of processing.

Furthermore, Mumford et al. (2000) suggested that an individual's personality traits might impact his/her leadership ability in dealing with complex system problems. To refine the systems thinking paradigm and explore its relationship with

knowledge, personality, and cognitive complexity, Randle and Stroink (2018) also explored systems thinking and its connection with older psychological mechanisms. Results showed that thinking systems, while linked to verbal intelligence, openness to experience, and complexity of attribution, made specific contributions to the imagination and, to some degree, to how people construct complex social problems. Therefore, the proposed research aims to further explore the role of personality in the development of systems thinking in the Malaysian context (see in Figure 1). The present investigation aims to test the following hypotheses:

- H₁.** There is an association between extraversion and systems thinking skills.
- H₂.** There is an association between neuroticism and systems thinking skills.

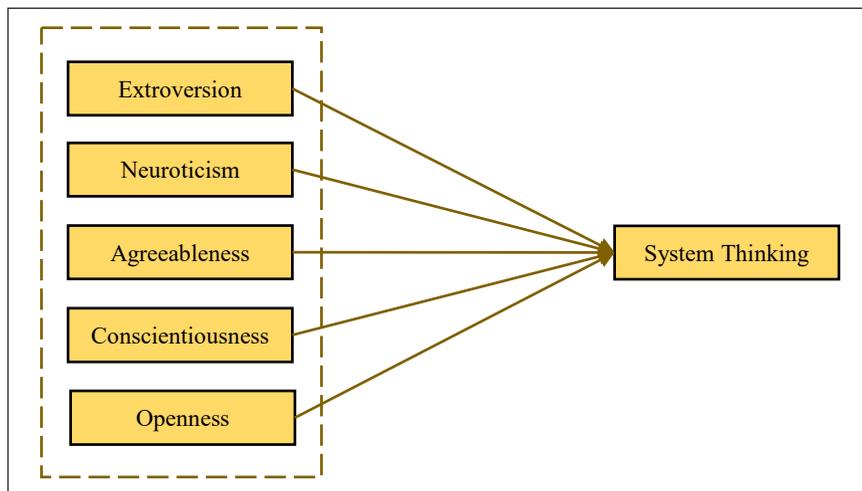


Figure 1. Theoretical framework

- H₃*. There is an association between agreeableness and systems thinking skills.
- H₄*. There is an association between conscientiousness and systems thinking skills.
- H₅*. There is an association between openness to experience and systems thinking skills.
- H₆*. There is a difference in systems thinking skills based on different personality types.

METHODS

Participants and Procedure

A total of 196 upper secondary school students from fully residential science schools in the Federal Territory of Kuala Lumpur were involved in this study via an online questionnaire distributed through email. Based on the boarding school (SBP) list, (Males: $n = 88$, 44.9%, and Females: $n = 108$, 55.1% and aged 15 to 16 years old).

According to the Cochran sampling formula (Singh & Masuku, 2014), the total sample size required should be in the range of 143 and 215 students. Byrne (2016) reiterated that the sample size for SEM must be reasonably significant. One hundred ninety-six samples met the SEM status for this study (Hu & Bentler, 1999). Following Chatterji's (2003) suggestion for education research, the quantitative method was employed. Before the actual analysis was initiated, a pilot test was performed on 33 participants. According to Malmqvist et al. (2019), a pilot study can be defined

as a small study to investigate the viability of a method intended for use in a grander scale test. A pilot study can determine the effectiveness of recruiting, randomization, retention, testing processes, experimental approaches, and innovative intervention implementation (Fraser et al., 2018). The purpose of the pilot test in this study is to determine the instrument's readability and reliability before it is distributed in the actual field. Based on the pilot study result, instrument system thinking and personal traits, including extraversion, agreeableness, neuroticism, and openness to experience, have acceptable to high internal consistency (Cronbach Alpha range between 0.6 and 0.8). This result shows that the overall questionnaire was readable, the internal consistency is accurate, and no item is ambiguous. Henceforth, for the distribution of the instrument in the actual field, a convenience sampling technique was used for this research with the information obtained from fully residential science schools in the Federal Territory of Kuala Lumpur, namely Sekolah Menengah Sains Alam Shah, Sekolah Menengah Sains Seri Puteri, and Sekolah Menengah Sains Selangor.

Research Design

This study is a quantitative approach with correlational research design (Hassan & Ghazali, 2012; Gay et al., 2012). It used a standardized questionnaire with established scales to collect data. Furthermore, it aims at producing a model that explains and predicts the relations between students' traits and system thinking skills.

Measures

Systems Thinking. It can also be defined as individuals' cognitive ability to perceive a system as a whole (Mobus, 2018), and it consists of elements, interconnections, and a function or purpose (Meadows, 2008). The Systems Thinking Scale (STS) was used to measure the systems thinking ability (Moore et al., 2018). The questionnaire consisted of 20 items and scored on a 5-point Likert scale from (1) never to (5) always. In the current paper, STS's reliability was .82, and the convergent validity (Average variance extracted: AVE) was .616 with the construct reliability (CR) of .86.

Personality Traits. Personality traits are qualities/characteristics that distinguish the character, action, and attitude of an individual. The Big Five factors of personality are assumed to represent the basic structure behind all personality traits. The Goldberg's International Personality Item Pool (IPIP) (Goldberg et al., 2006) questionnaire was used to identify respondents' personality traits. In the current paper, the reliability of the IPIP of five factors ranged from .70 to .95, and the convergent validity ranged from .52 to .54, with the CR ranging from .812 to .878.

Data Analysis

This study employed the structural equation modelling (SEM) analysis using AMOS 24.0 version software. According to Byrne (2016), applying SEM has the following advantages:

- (a). Enhances the statistical estimation by considering the measurement error in the estimation process,
- (b) Allows the researching of multiple correlations,
- (c) Tests more complex models such as testing mediation, and offers goodness-of-fit indices for the model tested, and,
- (d) Enhances identification of the instruments' validity and reliability.

The mean extracted variance (AVE) and the construct reliability (CR) were calculated as valid and reliable instrument indices. As a result, AVE and CR were performed to measure the validity and reliability of the instruments. Convergence means a set of indicators (items) that is presumed to measure a construct.

Similar standard procedures of SEM were used to explore the relationships among the studied variables (Ismail, et al., 2020). In this study, several steps were needed to conduct the SEM analysis, including (i) develop a model based on the concept and theory, (ii) develop the path diagram to the structural model, (iii) determine the input matrix and model estimation, (iv) evaluate the goodness of fit, (v) interpret and modify the model.

Data Preparation

The data had a normal distribution shown by skewness values from -.635 to -.035 and the values of Kurtosis from -.581 to 1.403. Byrne (2016) defined that if the skewness values were between -2 and +2, the values

of Kurtosis were between -3 and +3, and the data should be presumed to have multivariate normality. The use of model fit indices with chi-square/degree of freedom ratio (CMIN / DF), comparative-fit index (CFI), goodness-of-fit index (GFI), and Tucker-Lewis index (TLI) was encouraged by Kline (2016) for model fit. A rule of thumb for the fit indices is that the values imply a satisfactory fit at, or above, 0.90 (Kline, 2016). The model can also be defined as satisfactory if the approximation root means square error (RMSEA) is between 0.03 and 0.08. Good fit indices were shown in this model: CMIN / DF = 1.409, $p < 0.01$, CFI=.916, IFI=.919, TLI=.961, GFI=.869, and RMSEA=.046. (cf. Table 1).

The measurement model provides evidence that the selected items reconstruct an unobserved construct (Byrne, 2016). The CFA result indicated a satisfactory measurement model with high factor loadings for all of the items on the predictable factors, and the commonalities of each item are above 0.50. This denotes that all of the constructs imitate the convergent construct validity calculation. In terms of the validity analysis, all constructs display sufficient discriminant validity, while the value of

the square root of AVE of each dimension was more significant than the correlation coefficients of the pairwise dimension.

RESULTS AND DISCUSSION

Structural Model

This model comprises the Big Five personality traits variables, namely extraversion, neuroticism, agreeableness, openness, conscientiousness as exogenous variables, and the system thinking that acts as the endogenous variable. As presented in Figure 2, extraversion is negatively and not significantly associated with systems thinking ($\beta = -0.034, p = 0.776$). Hence, this contrasts with Lukaszewski's (2019) work, who stated that students with the personality trait of extraversion were sociable, courageous, confident, active, socially attractive, positive emotionality-centered, and approach-oriented. Besides, the results showed that students with extraverted personality function-focused more on people or feelings than things and systems, which do not confirm previous studies (Clancy & Dollinger, 1993). Thus, this finding does not support H₁. Our findings may also be in line with Carvalho et al. (2020), suggesting that

Table 1
Goodness-of-fit measures and AVE and CR values of study instruments

Constructs	Mean	SD	AVE	CR	Fit index	Outcome
Extroversion	3.12	.73	.524	.812	CMIN/DF	1.409
Neuroticism	2.8	.71	.54	.878	CFI	.916
Agreeableness	3.6	.48	.526	.814	IFI	.919
Openness	3.4	.50	.522	.844	TLI	.961
Conscientiousness	3.5	.59	.534	.817	GFI	.869
System thinking skills	3.8	.43	.616	.864	RMSEA	.046

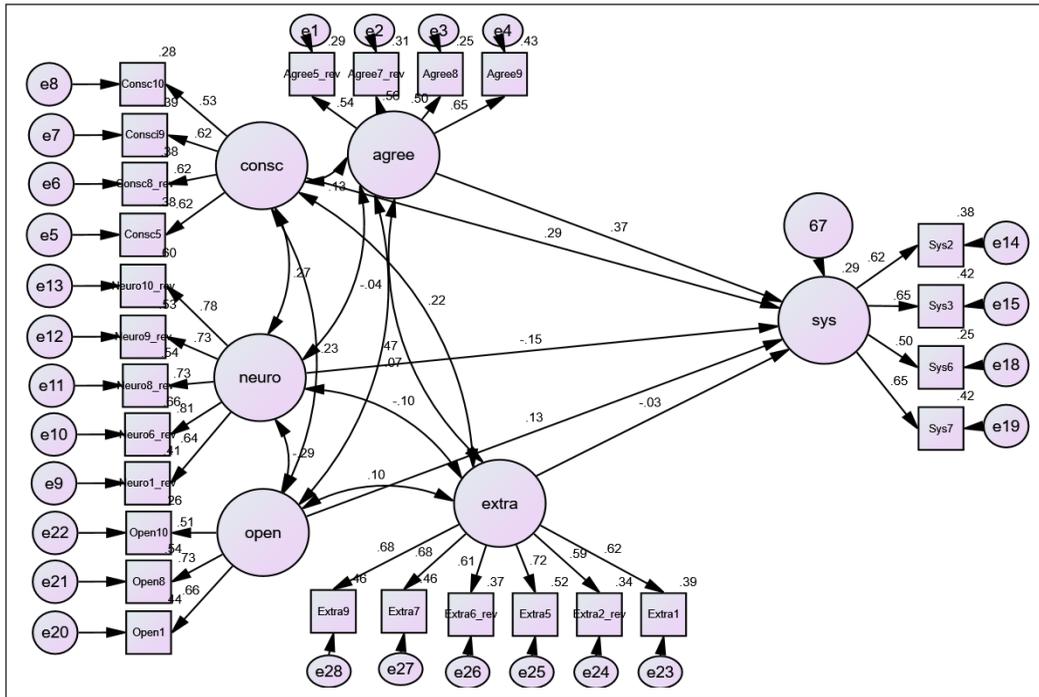


Figure 2. Structural model of the study

Note. Agreeableness (agree), openness (open), neuroticism (neuro), conscientiousness (consc), extraversion (extra), and neuroticism (sys).

extroverted functioning seems powerless in the COVID-19 traumatic situation and cannot influence students' systems thinking.

Hence, this result could suggest that neuroticism traits can negatively predict students' systems thinking ($\beta = -0.152, p = 0.008$). This finding is aligned with the idea of Barlow et al. (2014), which stated that individuals with neuroticism traits had frequent experiences of negative emotions, which were often accompanied by the perception that the world was a dangerous and threatening place, which could hamper their systems thinking. Therefore, H_2 is not supported. Moreover, we found that students with an agreeableness trait think more systematically ($\beta = 0.370, p = 0.024$). As systems thinking is a set of methods,

models, and techniques to analyze and solve complex problems (Pan et al., 2013), students with agreeableness traits can easily handle challenging situations with a sense of conflict resolution, leading them to systems thinking. Thus, H_3 is supported. The findings also indicate that conscientiousness is a significant predictor of students' systems thinking ($\beta = 0.288, p = 0.022$). This confirms the findings of Hiep and Ameen (2017). They stated that conscientiousness consisted of the leadership competence of showing a clear commitment and plan to solve issues and achieve goals when managing an enterprise or a group, which can be assumed as complex systems. Leaders need to consider, analyze, and evaluate to solve complex problems, which can be

done by applying systems thinking. Thus, H_4 is supported. Our findings contrast with Carvalho et al.'s (2020) findings, which stated that conscientiousness did not lead to systems thinking in challenging situations like the COVID-19 pandemic. Our results have established that students high in this trait can think systematically in these difficult times.

Finally, students' openness to experience does not lead them to systems thinking ($\beta = 0.131$, $p = 0.250$). The results do not confirm Schretlen et al.'s (2010) findings that the trait of openness to experience is strongly correlated with divergent thinking and cognitive flexibility to deal with a task and the changing environment. Thus, H_5 is not backed by the findings of this study. Extraversion, neuroticism, agreeableness, conscientiousness, and openness variables explained 29% of the variance in systems thinking among upper secondary school students in Malaysia.

An Analysis of Crosstabs

When comparing personality traits and systems thinking, it was found that more than half of the extroverts exhibited moderate systems thinking level. The current findings showed that most respondents with average neuroticism had either moderate or high system thinking levels.

Besides, as shown in Table 2, 44.1% of students with a high level of conscientiousness had a high level of systems thinking. Moreover, the majority of students with moderate agreeableness traits have a moderate level of systems thinking.

Almost 40% of students demonstrating high level of openness to personality traits also showed high systems thinking level. The overall distribution of personality traits and systems thinking is tabulated in Table 2. The chi-square was used to statistically determine whether the distribution of categorical variables between the personality traits and systems thinking skills differed significantly from one and other. The chi-square revealed no significant difference between neuroticism and system thinking skill level with a chi-square, 4.01 and a p value of >0.05 .

CONCLUSION

As schools worldwide have closed and leaving more than a billion students out of school, governments have deployed various remote learning modes. Thus, students who understand that their actions (based on their personalities) take place within a broader context can anticipate a crisis more quickly. This, in turn, makes them more resilient. Systems thinking is the ability that involves the need to think about the system as a whole by knowing and understanding the elements in the system, the relationship between the elements within the system, and adapting the knowledge about the system to solve the issue or to improve the function of the system (Arnold & Wade, 2017). As systems thinking is becoming more and more commonly known as the necessary force in Malaysia's education and a significant source in one's personal life, the growth of Malaysia's public interest in cultivating students' systems thinking has a greater

Table 2
Crosstabs of personality traits and level of system thinking skill

Personality traits	Systems thinking skill level						Pearson's Chi-square (χ^2)	Sig- χ^2
	Low		Moderate		High			
	N	%	N	%	N	%		
Extraversion							4.046	0.044
1.00 -2.33	0	0.00	13	18.8	20	15.7		
2.34-3.66	0	0.00	46	66.7	67	52.8		
3.67-5.00	0	0.00	10	14.5	40	31.5		
Neuroticism							4.01	.135
1.00 -2.33	0	0.00	13	18.8	41	32.3		
2.34-3.66	0	0.00	43	62.3	77	60.6		
3.67-5.00	0	0.00	13	18.8	9	7.1		
Conscientiousness							4.64	.032
1.00 -2.33	0	0.00	1	1.4	3	2.4		
2.34-3.66	0	0.00	38	55.1	68	53.5		
3.67-5.00	0	0.00	30	43.5	56	44.1		
Agreeableness							4.62	.035
1.00 -2.33	0	0.00	2	2.9	2	1.6		
2.34-3.66	0	0.00	48	69.6	55	43.3		
3.67-5.00	0	0.00	19	27.5	70	55.1		
Openness							4.6	.036
1.00 -2.33	0	0.00	1	1.4	3	2.4		
2.34-3.66	0	0.00	48	69.6	73	57.5		
3.67-5.00	0	0.00	20	29	51	40.2		

need. Malaysia Education Blueprint (2013) highlighted the importance of thinking skills by including the skill as one of the students' aspirations to survive in the 21st-century economy.

This study also reveals that different personality traits influence students' abilities in systems thinking. This is because personality traits are developed based on students' environmental, cultural, and socio-economic backgrounds. This study's findings support the fact that some aspects of an individuals' personality traits can affect the individuals' ability to

think in systems thinking (Paunonen & Ashton, 2013). Schools do not have any substantial influence in promoting systems thinking to their students. Systems thinking and the extraversion, agreeableness, conscientiousness, neuroticism, and openness to experience personality traits were analyzed using crosstabs. It indicates that most students have a high level of systems thinking and a moderate level for almost all five personality traits. As compared with previous studies, there are differences between Malaysian students with students from other countries. It may

be the culture and environment where the students lived (e.g., Schwaba et al. 2018). In general, this study's findings offer practical implications and vital recommendations for school managers and prospective studies. The findings support the notion that a sense of agreeableness and conscientiousness among the rest of the traits certainly need to be encouraged and nourished among Malaysian secondary school students.

This study also provides more understanding and additional information on improving the students' ability to think in systems thinking. The ability to think can be improved during formal teaching and learning sessions by giving students practices and knowledge to answer specific issues. Other methods can also be applied by teachers and school leaders to improve the students' systems thinking. Based on this study's additional information, one needs to identify the most critical predictor in personality traits that can significantly improve students' systems thinking. It is suggested that school leaders and educators organize activities that can promote certain personality traits that can improve systems thinking in schools or more specifically, classrooms.

According to current findings, the link between personality traits and systems thinking can provide students with immediate efficiency and improve the performance of the system by adapting the skills and personality of individuals to their future role requirements in a timely fashion. Besides, it is possible to support the enhancement of system thing skills and

certain personality characteristics (e.g., conscientiousness, agreeability) through curricula across schools and determine which majors produce more students of system thinkers than others (Nagahi et al. 2020). The curriculum should be revised to design more courses that are relevant to the resolution of complex system problems to improve these skills. This study gives some implications, especially ideas to teachers on how to enhance students' ability in systems thinking by developing learning strategies by keeping in mind the individual's needs and personality traits. Agreeableness trait shows the most influence in system thinking, meanwhile extraversion and neuroticism show the opposite. Therefore, educators need to develop an intervention that is effective in altering personality factors to enhance the positive effect, particularly the intervention involved in developing systems thinking skills.

LIMITATIONS AND FUTURE STUDIES

This study cannot be generalized to all fully residential schools in the country, much less the other students from other schools, like the daily schools. The result for the level of systems thinking cannot describe the systems thinking ability for other students in Malaysia. This study was conducted at fully residential schools accommodating bright and high-achieving students from all over Malaysia. Moreover, many other factors that may be linked to systems thinking can be considered. Another limitation of this study is the use of only the Big Five personality

traits to assess upper secondary school students' personalities. There are many models and theories related to personality traits that can be found in many academic disciplines. In the present study, we selected the Big Five Personality due to its bipolar trait dimensions, which are part of the most widely used personality structure

ACKNOWLEDGEMENT

We would like to thank all contributors especially those for helping finalize this research.

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Weathering the Economic Impact of COVID-19: Challenges Faced by Microentrepreneurs and Their Coping Strategies during Movement Control Order (MCO) in Malaysia

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ABSTRACT

The COVID-19 pandemic is a global crisis that has caused a punishing economic impact on businesses, particularly due to many countries adopting measures such as the Movement Control Order (MCO) to curb the spread of the COVID-19 disease. The impact hits the most on microentrepreneurs since they are not able to operate their businesses, of which the margins of profit and resources are relatively small. The purpose of this research was to explore the challenges faced by microentrepreneurs during MCO and their coping strategies used to overcome these challenges. This study utilized the qualitative case study approach and collected interview data among the identified microentrepreneurs that met the criterion sampling. The findings uncover that these microentrepreneurs typically faced challenges related to restricted cash flows, lack of customers and supplies shortage issues which impacted their income and business operations during MCO. These challenges were addressed using coping strategies, namely having the ability to control stress, developing a strong spiritual relationship with God, applying problem solving thinking skills, utilizing social capital (offline and online), and optimizing digital marketing. It is recommended that government agencies, NGOs, and social movement bodies contribute

to microentrepreneurs by organising and engaging in digital empowerment programs to enable rural entrepreneurs to leverage on their access to digital commerce, internet marketing and alike.

ARTICLE INFO

Article history:

Received: 13 November 2020

Accepted: 11 March 2021

Published: 14 April 2021

DOI: <https://doi.org/10.47836/pjssh.29.S1.15>

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Keywords: COVID-19 coping strategies, microentrepreneurs, sustainable empowerment, SMEs

INTRODUCTION

The COVID-19 pandemic is a global crisis that has caused a punishing economic impact on businesses, including small medium enterprises (SMEs) and micro SMEs. In Malaysia, both SMEs and micro SMEs make up to a significant 98.5% of Malaysian businesses (SME Company Malaysia, 2020). When the government of Malaysia imposed a nationwide Movement Control Order (MCO) on 18 March 2020 to curb the spread of COVID-19, it inadvertently put many businesses at a standstill. The MCO has refrained all non-essential businesses from operating and was not allowing people to conduct their usual social and economic activities. Businesses continue to be disrupted for several more months as the movement and activities of the people were restricted by certain guidelines, even when the economy sectors were gradually allowed to reopen after the Conditional Movement Control Order (CMCO) was reinstated to replace MCO. According to Ratnasingam et al. (2020), two major concerns of SMEs during COVID-19 crisis are financial management and supply chain disruptions.

To help alleviate the economic impact of COVID-19, the Malaysian government announced an economic stimulus package, called PRIHATIN (the acronym refers to a Malay word which means *care*), to provide financial assistance to Malaysians as well as SME businesses who were impacted by the COVID-19 crisis. Although the stimulus package was able to provide temporary relief, it was deemed not sufficient to

sustain the SMEs' viability in the long run due to several issues (Yi, 2020). For example, different challenges were faced by SMEs of different sizes as larger SMEs have higher cash reserves to sustain their payroll, whereas micro SMEs are more susceptible to financial shortage due to lack of savings. However, due to their smaller scale operation, micro SMEs are typically more adaptable and can change their business model quickly to adapt to the current situation; whereas larger SMEs are more restricted to make quick and swift changes due to the size of their running operation.

Under these different circumstances, how do SMEs' businesses owners alleviate their challenges and sustain their business? This study, in specificity, explores the challenges faced by microentrepreneurs during COVID-19 crisis and the coping strategies that they employed in weathering the economic impact of MCO on their businesses. These participants were selected among the small community of microentrepreneurs known as 2 Years Exit Programme (2YEP) entrepreneurs.

Microentrepreneurs from the 2-Years Exit Programme (2YEP)

The 2-Years Exit Programme (2YEP) is a special initiative launched by the Department of Social Welfare Malaysia (DOSWM) under the Ministry of Women, Family and Community Development in Malaysia as means for empowering the local microentrepreneurs towards

financial and economic freedom. These microentrepreneurs were previously the welfare beneficiaries from DOSWM, who were identified among those from low income households and some with physical disabilities. The main objective of the 2YEP program is to assist the participants to end their welfare aid dependency by providing them with entrepreneurship training. Ever since this programme was initiated from 2014 to 2019, about 987 welfare recipients have voluntarily terminated their monthly welfare aid and became self-reliant and empowered to support themselves (Jabatan Kebajikan Masyarakat, 2020). Among these 2YEP participants, a number of them were identified as successful microentrepreneurs by the DOSWM. Through aid and participation in various entrepreneurship training programs provided under the 2YEP initiative, these microentrepreneurs ultimately got themselves out of poverty by running small scale businesses to earn a stable income for their living.

However, just like other SMEs businesses out there, these microentrepreneurs were also affected by the COVID-19 crisis. As their income generation depends on their ability to run their small businesses on a daily basis, the restrictions imposed during MCO provided a threat to their business sustainability. With prolonged and unforeseen impact of COVID-19, these microentrepreneurs are now economically vulnerable and may face the possibilities of returning back to poverty due to their disadvantaged background.

Research Questions

The purpose of this study was to explore the challenges faced by microentrepreneurs and identify their coping strategies for sustaining their business and living during the COVID-19 crisis. The participants of this study were microentrepreneurs and ex-financial aid recipients who had been mobilized out from poverty after successfully sustaining their micro businesses and generating stable income as a result of their participation in 2-Years Exit Program (2YEP) initiative by the Department of Social Welfare Malaysia (DOSWM). The scope of this exploratory research was outlined based on the following research questions:

RQ1: What were the challenges faced by the microentrepreneurs during MCO?

RQ2: How did the microentrepreneurs coping strategies help them to overcome the challenges?

LITERATURE REVIEW

Background of the Microentrepreneurs

Microentrepreneurs are the most vulnerable groups with small margins of resources, with risky and insecure backgrounds among the larger society (Kuratko, 2016). By definition, microentrepreneurs are owners of microenterprises who innovate new methods in business or start changes in the production, venture into market opportunities, and change the culture of doing business (Mondal & Jimenez, 2015). Microentrepreneurs also depend on micro-

credit programmes as well as external and public assistance programmes to finance and run their business operations (Castiglione et al., 2008). This means that they are also vulnerable to fall into the relative-poverty trap. Nonetheless, vulnerable groups normally refer to small-scale farmers, pastoralists, and fishermen (World Bank Group, 2020) where microentrepreneurs are not mentioned in the list. Many poor people find their way into livelihood via entrepreneurship to escape poverty and make ends meet. During the COVID-19 pandemic struck most parts of the world, poor people are among the severely impacted.

In African countries, quarantine and lockdown had caused the collapse of health and the economy. Therefore, financial support by the government to entrepreneurs was suggested to help the people cope with the crisis (Ozili, 2020). In Kenya, the government provided assistance to Kenyans microentrepreneurs in terms of tax relief and tax reduction for all micro, small and medium businesses or enterprises (Odhiambo et al., 2020). Another African country, Ethiopia, is concerned about food scarcity, and thus it encourages the microentrepreneurs to look for alternative solutions for food availability (Forsido et al., 2020). Meanwhile in Asia, the Philippines government provided subsidies amounting to PhP 5,000.00 to PhP 8,000.00 a month for 2 months under the Bayanihan Heal for the informal economy workers, including microentrepreneurs as they are among the low-income households (Ricalde, 2020).

In Malaysia in particular, the PRIHATIN stimulus package was announced to provide similar financial relief to all Malaysians (Shah et al, 2020). Specifically, to the micro, small and medium enterprises who were severely impacted by the COVID-19 crisis, the financial assistance was given in various forms, namely:

- I. The allocation for the wage subsidy program where all companies with local workers earning RM 4,000 and below, received wage subsidy assistance;
- II. A Special Grant of RM 3,000 to each micro company that benefited nearly 700,000 eligible micro SMEs nationwide who are registered with the Inland Revenue Board (IRB);
- III. The government also called for lending organizations registered under the Lenders Act 1951 to provide credit facilities in the form of a moratorium on SME instalment payments for 6 months beginning April 2020, as provided by the bank;
- IV. Abolished the 2 % interest rate to 0 % for the RM 500 million Micro Credit Scheme under *Bank Simpanan Nasional*. The micro loan scheme for the micro company was extended to *TEKUN Nasional* with a maximum loan limit of RM 10,000 per company at 0 % interest rate. For this purpose, a sum of RM 200 million was provided. Applicants could

- only choose one of these schemes to enable more traders to enjoy this facility;
- V. Exemption of rental payments or a provision of rental discounts to SME retail traders on premises owned by government-linked companies, such as MARA, PETRONAS, PNB, PLUS, and UDA as well as some state government companies that had agreed to give discount or no payment at all during the MCO;
 - VI. The government also urged private property owners to reduce their rental rates at least during the MCO period and 3 months after the MCO ended. Owners of business premises who reduced or waived rentals to the small and medium enterprises are entitled for additional tax deductions equal to the amount of the rent reduction from April to June 2020;
 - VII. A 25-percent reduction in foreign workers' levy payments to all companies whose work permit expires from April 1 to December 31, 2020; and
 - VIII. The government also promoted negotiations between employers and their employees on the terms of employment, including pay cuts and granting unpaid leave during MCO.

(Prime Minister Office of Malaysia, 2020)

However, not all businesses received or eligible to claim the outlined benefits above, as it depends on the location and nature of their business operations. Furthermore, the distribution of the cash stimulus often faced delay due to bureaucratic processes, causing misgiving among the entrepreneurs and business owners to rely on the assistance provided (Yi, 2020). The issue of livelihood continues to be both the driving factor and a stressor for surviving microentrepreneurs to continue their business operations despite delays in receiving these assistances.

Sustainable Empowerment of the Microentrepreneurs

The term sustainable empowerment is rarely used. It encompasses two major concepts, namely empowerment and sustainability. Drakakis-Smith (1995) argued that sustainability could not be confused with developmental and environmental sustainability, and suggested that sustainability was anything that could be measured as a continuous change. This description is in line with Craig's (2002) definition of empowerment, which is also about continuous change. Lyons et al. (2001) stated that individuals' achievement in maintaining their power and control at some level was a key success factor for empowerment. Therefore, entrepreneurial empowerment is vital in promoting sustainable empowerment among the marginalized communities (Swanson & DeVereaux, 2017). For the microentrepreneurs community in particular, they must persist and cope with

the challenges that were caused by the COVID-19 crisis, as they typically come from low income households and must continue to sustain their livelihood. Coping is a continuous cognitive and behavioural effort in managing specific external and/or internal demands that are perceived as cutting or exceeding the resources of an individual (Lazarus & Folkman, 1984).

Meanwhile, a sustainable individual is a person who can align their behavioural change with the surrounding values. During this hard time, new norms and values were introduced, as more hygienic and safety measures around health are imposed by the government. Maslow (1968) mentioned that a self-actualized individual was also able to transform himself from *being to becoming* in order to grow when some changes occurred in the value system. According to Pappas (2013), those who possess the qualities of having a relatively high level of self-awareness in values, thoughts, behaviours and actions as well as fostering continuous individual growth in physical (health), emotional, social, philosophical, and intellectual abilities are what we considered sustainable individuals. For these microentrepreneurs in particular, the ability to change and adapt their business is a must as their livelihood depends on the viability of their businesses. Hence, this study seeks to explore the experiences of these microentrepreneurs in coping with these challenges during the COVID-19 crisis, through the lens of sustainable empowerment.

METHODS

A qualitative case study approach was used to explore the challenges faced by microentrepreneurs during the COVID-19 pandemic crisis and the coping strategies they used to ensure the survival of their microbusinesses. A total of seven 2YEP entrepreneurs participated in this study. The selected participants were former beneficiaries of the Department of Social Welfare Malaysia (DOSWM). The participant criteria selected for this study were, 1) former participants in the 2YEP programme, 2) has been running business for more than five years, 3) has been empowered and able to achieve a higher and stable income, and 4) voluntarily terminated the monthly financial aids from DOSWM. Among the participants were single mothers, persons with disability (PwD) and poor families.

Data Collection

This research was conducted by utilizing the narrative qualitative, hence “a small sample was acquired” (Klopper, 2008) from participants who met the criteria outlined above and willing to participate in this study during MCO. The researcher had been in contact with the participants since Mac 2019 for her PhD research, hence, for this study, an online interview was conducted after the initial face-to-face interview that took place before MCO. In general, the following were the main interview questions:

What were the challenges you encountered during MCO?

What were your preparations in facing uncertainty risks during this time?

How did you manage your business during MCO?

The interviews were conducted, transcribed, and analyzed in verbatim in respondents' native language, the Malay language. The core categories, key findings and supporting quotes were then translated into English for reporting purposes. To ensure accuracy and conceptual equivalency of the findings during the translation process, a backtranslation strategy was employed between two bilingual translators (both in Malay and English) based on the procedure as suggested by Chen and Boore, (2009).

During MCO, due to the restriction on interstate travels, researchers continued to conduct additional data collection using telephone calls, video calls, text messaging and voice recording via WhatsApp messaging application. Key questions asked were centered around the sustainability of the respondents' microbusinesses throughout the MCO period. All these web-based conversations were converted into text-based conversation for data analysis purposes. Creswell and Poth (2018) stated that currently, many new forms of qualitative data had emerged, including web-based interaction interviews.

Apart from interviews, the secondary data sources for this study were also derived from content analysis of the respondents' social media postings (related to business marketing) and other related literature for triangulation purposes. This

is part of the reliability strategies used in qualitative research for ensuring rigor and trustworthiness (Marshall & Rossman, 2011).

Data Analysis

This study used a qualitative descriptive method to analyze the transcript of respondents' conversations. Data were analyzed manually using color coding techniques to identify emerging patterns either at the word, phrase or sentence level. Researchers analyzed the respondents' interviews which focuses on the impact of MCO on their business with identification of keywords, leading to the development of categories and themes explaining the findings. Apart from that, this method is also used to determine the patterns of coping strategies used by these microentrepreneurs. Meanwhile, for the data collected through the respondents' Facebook postings, the researcher used the content analysis method to analyze the respondents' postings in their Facebook account posts that were related to business marketing. The keywords were collected, categorized and linked to the resulting themes.

RESULTS AND DISCUSSION

Table 1 presents the summary backgrounds of the participants in this research, including the type of microbusiness that they ran.

Findings from the data highlighted two sets of themes that framed the experiences of microentrepreneurs in sustaining their business during MCO, involving 1)

Table 1
Profile of research participants and the type of the microbusinesses

Respondent (pseudonyms and age)	Educational background (age/ years old)	Business Location	Types of business	Average income before MCO (RM/ month/day)	Average income during MCO Stage 1-4* (RM/ month/day)	Business Operation during MCO Stage 1-4*
Respondent 1 (48)	12 (UPSR)	Rural	Homemade frozen foods and fresh baked breads	6000-7000/233	4,000/133	Allowed
Respondent 2 (43)	19 (SKM)	Semi-urban	Night market street food	20,000/666	2,000/66	Not allowed
Respondent 3 (34)	12 (UPSR)	Rural	Perfume founder and supplier	20,000/666	2,000/66	Allowed
Respondent 4 (44)	22 (Diploma)	Rural	Food stall and Tailor	30,000/1000	9,000/300	Allowed
Respondent 5 (45)	17 (SPM)	Rural	Grocery store	15,000/500	4,500/150	Allowed
Respondent 6 (38)	12 (UPSR)	Rural	Printing shop and plumbing services	8000/266	4,000/133	Not allowed
Respondent 7 (40)	17 (SPM)	Rural	Coconut milk seller, local fruits and groceries wholesaler	8000/266	9,000/300	Allowed

*Data recorded during from 30th Mac until 3rd May 2020 before the reopening of the economy sector.

challenges they faced during MCO and 2) the coping strategies they used to overcome the challenges they faced.

Theme 1: Challenges Faced by Microentrepreneurs during MCO

The findings identified three key challenges that the microentrepreneurs faced during MCO. All these challenges were the broader impact that were caused by restricted social and economic activities that were allowed during MCO.

Restricted Cash Flow. The respondents highlighted the concern on ensuring that they have enough cash flow and savings if MCO continues for a longer period. Since most of them do not favor making new loans, they had to downsize their business and use their personal savings to make ends meet. However, the situation was different with Respondent 1 and Respondent 2 who had made business savings and raw materials stocks that could last during the MCO. For both of them who run a food business, the business was not facing too many problems. Meanwhile, Respondent 2 mentioned that after all his savings ran out, he had to borrow money from his mother. He said, “After my savings ran out, I had to borrow my mother’s money.” As for Respondent 7, he just finished settling his final installment payment for his van. Hence, he basically had less savings before the MCO started.

Lack of Customers. Additionally, the impact of social movement restriction was

apparent in terms of the reduced number of customers that these microentrepreneurs had during MCO. Respondent 3 expressed her worry, “Most affected are types of services such as printing, hair salon, hardware stores. No customers at all. So, this is the risk of not selling essentials like food and others.” Nonetheless, essential business owners such as Respondent 5 and Respondent 7 informed that they also had fewer customers. However, their customers could come to the store or make online orders. In addition, Respondent 6 also mentioned that his regular customers who were among college and school students did not come to his printing shop as all educational sectors had closed down. Nonetheless, unexpectedly the State Secretary Office had requested for him to operate his shop so that the public could print the *Bantuan Prihatin Nasional* application forms and also photocopy the related documents that were needed for the application.

Supplies Shortage Issues. Another challenge faced by these microentrepreneurs was related to supplies shortage issues. For Respondent 5 and Respondent 7, who were both running grocery shops, mentioned that some of the goods were not in good quality or scarce during the MCO. Nonetheless, this was not a big issue, as most other goods were still available. Respondent 7 mentioned that, “potatoes are scarce, and if available it’s not in the best quality.” Respondent 5 stated that “Suppliers were not able to send since nobody can go outside, and all suppliers wanted cash payment.”

However, for another microbusiness owner, Respondent 3, the factory that supplied bottles for her products were not operating, therefore, she could not produce in large quantities. According to her:

“My hand sanitizers sold for 100 bottles already. But now I can’t do it anymore, because the bottle factory in Damansara has been closed. I only have the liquid. Not enough bottles. I was able to buy 200 bottles that day. I don’t keep a lot of bottles, because I don’t have a high capital.”

However, things were doing great for Respondent 7 who was selling vegetables and other plant-based cooking supplies. According to him, many customers bought in a bigger volume compared to before the MCO, hence increasing his sales and income for that period of time. “Many customers who usually only bought a few items from us, suddenly bought more. Also, some bought in a bigger volume than usual. For example, from 1 kilogram to 2 kilograms of coconut milk.” His coconut milk shop is also a place for some of the villagers to sell their produce and vegetables, such as chilies, cassavas, pumpkins, local fruits, and other nearby local food products. For him, the challenge was not about selling the items, but making sure his stocks and supplies are adequate to meet the increased demand. Due to MCO, supplies of fresh vegetables may be delayed due to restricted cross-district logistics. Therefore, Respondent 7 had to ensure he planned ahead for his purchase

and had to buy in larger amount. Therefore for him, having enough cash reserves is important otherwise it will disrupt his supplies.

Theme 2: The Coping Strategies Used to Overcome the Challenges Faced during MCO

In response to the challenges faced above, participants were also asked on their coping strategies for managing and overcoming those challenges. In entirety, these microentrepreneurs were found to be mentally prepared to handle the challenges, as they have previously experienced hardship before they were empowered by their microbusinesses, as boosted by the financial aid from the Department of Social Welfare Malaysia (DOSWM) and guidance received from the 2YEP initiative.

Having the Ability to Control Stress.

Emotion-focused is a form of power generating strategy that produces emotional calm (Lazarus & Folkman, 1984) where individual emotions play a role in assessing external threat and taking control (Augustin & Rathakrishnan, 2016), so that individuals can correct cognitive and behavioural problems to deal with stressful situations. One of the respondents mentioned:

“If I am sad in any way, I look back, I see the people who are in the poorest situation than me. Sometimes I look at my old photos, “Ya Allah I can survive this COVID-19 I have been through the worst life tragedy before”.

Another respondent also mentioned that even though his night market business was affected, he needed to remain calm, be patient and obey the law. He said, "I am not allowed to do business during the MCO, so I just follow the law, and do what I can to save money".

Developing a Strong Spiritual Relationship with God. During hard times, entrepreneurs need to be optimistic and positive. For the respondents in this study who are all Muslims, this positive attitude is aided by the strength of their respective religious values. As Respondent 2 mentioned:

"Hunt for the Hereafter, Allah will organize the world for you. Read the Al-Quran's translation, you will understand many things. Faith is about confidence in Allah. Read, understand and follow. If you only read Al-Quran to get rewards, you will not understand. Practice reading it, then you will get the results...Peace in heart, and Allah will solve all your problems in this world and Hereafter. That is what I have been doing all this years, even in my economy, all involved Allah's help. It's because of reading the Al-Quran".

Meanwhile, Respondent 5 explained that she always maintained a positive attitude when facing trials from Allah, The Almighty. Therefore, she constantly reminded herself to be ready to be tested by

Allah without knowing what kind of test it would be. She stated:

"As this shop is getting better and bigger, there is a bit of a suspense, because I don't know what God wants and what I will be tested with. As you know, the reason we came to this world is to be tested by God. It's about how we can implement that test for ourselves and our families. That's what's important".

Respondent 7, who is physically disabled with only one foot, also elaborated on how he handled challenges in life with gratitude and determination. He compared himself to the hardships and disadvantages of others. According to him:

"Look at the people who are worse than us. We think about it, we encourage those who are in worse condition than us, we learn from it, we will see it. Why is Allah so good to me, we should be grateful and blessed".

With his submission and dependence on Allah, The Almighty, Respondent 7 felt like he was able to maintain his empowerment and continued his life without depending on the help of charity. In Islam, one of the six pillars of faith is "Believe in Qada' and Qadar", that is to believe in the destiny that is predetermined by Allah, The Almighty. From an Islamic point of view, Qada' means what Allah SWT decides for all beings from the point of creation, whether to abolish it or to change it, while Qadar means destiny,

which is something that Allah SWT has fixed the measure since the beginning, so that it can be in accordance with His knowledge of all things (Zulkifli, 2018).

Believing in Qada' and Qadar is one of the guides in the daily life, and an orientation of Muslim entrepreneurship (Tunggak & Zoolhilmi, 2015). Reading the Quran, performing the mandatory prayers, and praying for His mercy ease the process of accepting Qada' and Qadar (Dharatun Nissa, 2017). However, this does not mean that Qada' and Qadar cannot be changed because by Allah's permission, they can remain and they can change, depending on humans' effort as Salman r.a. stated that the Messenger of Allah (pbuh) said, "Nothing turns back the Decree except supplication, and nothing increases the life-span except righteousness", (At-Tirmizi, no. 2139 as cited in Zulkifli, 2016).

This finding is also consistent with Utomo's (2020) findings on the importance of upholding religious values in the time of crisis. In this study, Utomo found that Muslim religiosity among his business owners had a significant effect on the firm survival while dealing with business challenges due to pandemic COVID-19. He asserted that "the determination of faith, Islam, and ihsan strengthen the foundation in running a business (p. 189)".

Applying Problem Solving Thinking Skills. The empowered guided entrepreneurs had gone through many hardships in life that helped shape their behaviour when facing a new challenge. According to Flavell (1979), meta-behaviour can help individuals solve

problems that they face and are useful in self-control behaviours. Respondent 5 mentioned that:

"In this business, longevity is not really short-sighted ... It is worth thinking about the direction of our lives ... When something goes wrong, I flip my mind to positive, what can I do to solve it. In this COVID-19 case, I switch my business from offline to online".

This means that entrepreneurs need to change their way of thinking dynamically and be open to choices in finding solutions to a problem. This condition is in line with Integrated Problem-Solving Competency in the Key Sustainability Competencies by United Nations Educational Scientific and Cultural Organization (2017), in which it is stated that individuals' ability to solve problems can be achieved by integrating other sustainability competencies and selecting viable, inclusive, and equitable solutions. For Respondent 3, her previous experience in dealing with desperate financial situations in her perfume business had made her more careful and more experienced in solving financial-related problems. Since three years ago, she has practiced downsizing from reducing operating costs and production volume as well as learned new skills about managing her accounts and debts from the Credit Counselling and Debt Management Agency, or commonly known as *Agensi Kaunseling dan Pengurusan Kredit (AKPK)*. This is stated by Respondent 3:

“Syukur Alhamdulillah (Thank God) I registered for AKPK, therefore I’ve learned prudent financial management and now that my business is interrupted, I am glad that my loans were also already reduced, and government’s assistance (Bantuan Prihatin Nasional) is also on the way, so I will just go with the flow. Try and error to think what should I do next, but whatever it is, I will never stop doing business”.

Respondent 4 also added that during the MCO, she had adjusted her business routines according to the standard operating procedures set by the government with a flexible and creative mind:

“I will continue to do business according to the procedures that the government proposes, and be creative as I want to continue my business in this limited time. So I implement Cash-On-Delivery and also take-away. I use the social media to promote sales. I’m thankful the government is helping out with the Economic Aid Stimulus Package. So no matter what, my business planning is in full swing because this is my business, my responsibility, my debts. Business is a risk. I must accept the risks”.

Most entrepreneurs’ problems can be solved quickly with creative and critical thinking (Barnard & Herbst, 2019; Buerah

et al., 2011; Mohd Hasril et al., 2017; Samah et al., 2018). Therefore, for beyond control risk, such as the impacts of the COVID-19 crisis on economic sustainability, these empowered entrepreneurs must apply their coping strategies and think creatively.

Utilizing Their Social Capital (Offline and Online).

The respondents received support and involvement from family members, the nearby community, and local resources, such as DOSWM and other local agencies, and institutions such as schools and non-governmental organizations. From the audio visual material analysis of the respondents’ Facebook and WhatsApp social media accounts, most respondents use social media regularly and continuously to this day as a platform to interact with family, friends, customers, and communities as well as to promote their business. This is parallel with Scarborough and Cornwall (2016) who state that it was essential for small or home-based businesses to have a good connection with their customers and community efficiently via social media, such as Facebook, Twitter, and Instagram. As stated by Coleman (1988), social capital in modern times requires more interaction between individuals and groups than individuals with individuals. Social capital can happen in the forms of obligations and expectations, information channels, and social norms and restrictions (Roseland, 2000). Social capital weakens when the relationship is neglected, abandoned, or not maintained. Therefore, in the times of COVID-19 threats, many people begin to

strengthen and empower their social capitals or resources via online medium in order to support each other and ensure the well-being of their loved ones.

Optimizing Digital Marketing.

SME entrepreneurs are now switching to the technological advancement for communication, which results in efficiency and effectiveness (Ramadhan Odhiambo, 2019). As mentioned by Respondent 4:

“In addition to my existing circle of networking, such as family and friends, I need to find people who may be interested in my products or services. So I advertised consistently, every day, in WhatsApp and Facebook, targeting to those who might be looking for food takeaways and deliveries during the MCO”.

The situation is similar with Respondent 7 who advertised on his and his wife’s personal Facebook page consistently about the products that were available in their shop during the MCO. Respondent 7 reported that he gained more income during the MCO since many people searched for the nearest shop that could deliver groceries and fresh cooking ingredients. He mentioned, “many of my customers suddenly buy in bigger volume to stock up their cooking ingredients and they ordered this using Facebook messenger, and then we deliver the groceries to them”. Meanwhile, through the audio visual material analysis on Respondent 2’s

Facebook account, it was discovered that he sold his products through Facebook and sent the pre packed RM5 yong tau fu to a restaurant near his housing area. During the online interview, he also informed that in order to make ends meet, his wife and him diversified their income by selling their homemade chips through the WhatsApp group of his residential area. Respondent 5 mentioned, “we sell anything we can produce, even it is only RM5 yong tau fu, not much, but it is okay, we still make some money”.

Overall, the findings of this study answered the questions related to the sustainability of empowerment among microentrepreneurs who came from low income households, with low education qualification, and underprivileged background. Among the challenges they faced during the MCO were restricted cash flow, lack of customers, and supplies issues. They were able to address those problems due to their ability to control stress, develop a strong spiritual relationship with God, apply problem solving thinking skills, utilize social capital (offline and online), and optimize digital marketing. This finding emphasized on the importance of the microentrepreneurs’ innovation capabilities to introduce and adapt themselves either to new products, new process, or new services for ensuring the survival of their businesses. According to Anning-Dorson (2017), innovation can be viewed as a process and/or outcome of undertaking changes

in an organizational conduct by pursuing new activities, routines, or processes for enhancing business performance. In times of crisis, such as during pandemic COVID-19, innovation capability has a significant effect on firm's survival (Utomo, 2020). Furthermore, the actions reported by the microentrepreneurs can be seen as a form of behavioral change. According to Koh et al. (2020) behavior changes are shaped by the goals of the individuals, such as to avoid illness, to avoid anxiety, or to live by important life values. In the case of these microentrepreneurs, their key goal was to sustain their livelihood and weather through the COVID-19 crisis on their businesses.

Therefore, to interpret the findings from this study, theories on empowerment and sustainability can be used to help illuminate the data and propose the explanation of the causes and effects towards sustainable empowerment despite the challenges faced during the MCO due to uncertainties and threats of the COVID-19. It can be explained partly by relating to the psychological empowerment theory by Zimmerman (2000), which defines empowerment as the perceived effectiveness and control of social, economic, and political aspects of one's life. Meanwhile, according to Pappas (2013), individual sustainability is a matter of aligning routine behaviour and withheld values where it will result in a more sustainable community action. From the aspect of individual resilience, Pappas (2013) as well as Pappas and Pappas (2015) highlighted the important elements in the

human social system, such as religion or beliefs, diversity, norms, learning ability, and the ability for the survival of self-organization to be maintained so that it was not receded or lost (Broman & Robèrt, 2015). Empowerment can also be discussed as an element that lends itself to self-leadership development (Fletcher, 2007). Self-leadership can be defined as the ability to exercise responsibility by taking control of one's personal actions and initiating self-directed initiative to move forward (Neck & Manz, 2010). The development of self-leadership, may be shaped by both internal influences such as self-aspiration and self-persistence values, as well as external influences such as participation in training and self-development programs (Mohd Rasdi et al., 2020; Yee, et al., 2019).

In Malaysia it was found that 42 % of enterprises failed to continue their businesses more than five years after the establishment (National Entrepreneur & SME Development Council, 2012). Thus, business volatility has affected the sustainability of their livelihood. Unfortunately, most of the marginalized groups do micro, small, and medium entrepreneurial activities in their survival efforts. However, for their business to last more than five years, government agencies need to provide dynamic entrepreneurial funding strategies and support them with skills development and the entrepreneurs themselves need to efficiently manage available resources (Asfaw, 2016), especially in the digital marketing skills.

CONCLUSION AND RECOMMENDATION

The purpose of this research was to understand the challenges faced by the microentrepreneurs cum participants of the 2Years Exit Programme (2YEP) and their coping strategies during Movement Control Order inflicted by pandemic COVID-19. The findings of this research lead to a conclusion that issues such as restricted cash flows as well as lack of customers and supplies were the key challenges faced by these entrepreneurs during the early stage of the MCO. From the studies on COVID-19 socio-economic impact conducted on other countries (Ataguba, 2020; Forsido et al., 2020; Krishnakumar & Rana, 2020), it is conclusive to note that the majority of small and micro enterprises were severely affected largely due to the lack of sufficient cash reserves. At the same time, this study highlighted that microentrepreneurs relied on several coping strategies to deal with these challenges. Among the coping strategies that were mentioned include developing the ability to control stress, developing a strong spiritual relationship with God, applying problem solving thinking skills, utilizing social capital (offline and online), and optimizing digital marketing.

From the findings, it was also noted that for essential businesses, their sales and income were not severely affected as they could still operate from the first stage of the MCO. However, they faced other issues such as lack of customers and supply shortage issues. Overall, for these microentrepreneurs, they highlighted the

importance of being proactive, innovative and positive in adapting to the new ways of doing business. The situation also presented them with an opportunity to review their business model and strategy towards a sustainable business practice as it is important to sustain their source of income in the long term. The low cost of living in the suburban and rural areas and access to nearby local resources also helped in moderating the impact of MCO on these entrepreneurs. Therefore, it is recommended that more empirical studies should be done to further explore the long-term implications of COVID-19 and the new norms restrictions towards the sustainable empowerment of the microentrepreneurs.

ACKNOWLEDGEMENT

We would like to acknowledge the participants of this study for their time and cooperation.

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Administrators' Attitude towards the Implementation of Physical Education in Selangor Primary Schools

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ABSTRACT

Despite considerable investments in transforming the physical education (PE) curriculum and improving PE quality in primary schools, reports indicate that quality implementation is mostly impeded by systemic barriers, especially at the administrative level. It is suggested that the vision of propelling quality PE is in the hands of administrators, especially principals. However, this role has been previously overlooked. This study explores the principals' attitude towards PE implementation, specifically by examining four implementation domains: a) supervision and monitoring (S&M); b) professional development (PD); c) support & allocation (S&A); and d) resource and curriculum (R&C). Seven personal variables (e.g., gender, years of teaching experience, working experience as a principal, type of school, academic qualification, professional qualification, physical activity level) were used to compare attitudes among groups across implementation domains. The ratio of 3:1:1 stratified random sampling was carried out to determine the sample size of 250 schools out of a total of 372 schools from five randomly selected districts in Selangor. Descriptive statistics showed that administrators generally had a low positive attitude towards the implementation of PE (mean= 3.88, SD= .604) but still being in a favourable range. One-way analysis of variance (ANOVA) revealed that the attitude in carrying out PE implementation was significantly different ($p < .05$) among personal variable groups: a) type of schools; b) academic qualification; c) professional qualification; and d) physical level

activity. The school leaders' attitude towards PE implementation may be dependent on the investigated variables which influence the development and sustainability of quality PE programme.

Keywords: Attitude, implementation, leadership, principals, physical education

ARTICLE INFO

Article history:

Received: 13 November 2020

Accepted: 11 March 2021

Published: 14 April 2021

DOI: <https://doi.org/10.47836/pjssh.29.S1.16>

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INTRODUCTION

The benefits of physical activity have always been scientifically proven to alleviate human physiological, psychological, and social health. Regular physical activity is known to be the key prevention from various heart diseases and sicknesses, ultimately improving one's well-being (World Health Organisation, 2010). A recent article from The Star newspaper by Chung (2020) reported that more than half of the adult population in Malaysia is either obese or overweight. The Malaysian Health Minister has declared that one of the leading causes of this problem is low health literacy (35% of the adult population). This raises the question of where our nation's physical education (PE) and Health Education is lacking (Chung, 2020).

In 2011, the Ministry of Education (MOE) stepped up the efforts to enhance the education curriculum by introducing a new curriculum. The new curriculum gives school leaders and teachers greater flexibility in learning and teaching, empowering them to better cater to the needs of the students (KPM, 2017). In addition to the new PE curriculum, MOE has launched '1 Murid 1 Sukan' (1M1S) policy in 2011 to enhance physical activeness and promote sporting activities among children, be it in sports or recreational activities. It is seen as a complementary policy that functions concurrently with the PE curriculum. The foundation of carrying out 1M1S is the implementation of quality PE and Health subjects in schools (Bahagian Sukan, 2011). PE has been recognised by the UNESCO

Charter as a basic human right since 1978. Yet today, PE still struggles to be valued and recognised in various regions across the world. Malaysia is amongst the nations where PE has been largely neglected or marginalised by schools. Several prominent and recent studies by Aboshkair et al. (2012), Mohamed et al. (2017), Ali et al. (2014) and Wee (2019) indicate that PE in Malaysia is in a dire situation as a number of teachers find it challenging to deliver quality PE. This is because school administrators have not been demonstrating quality PE implementation.

The current issues on PE instructional programmes in Malaysia indicate numerous setbacks in the implementation, teaching and learning of PE in Malaysia. Extensive research has been carried out on teachers' perspective towards PE implementation, which revealed the patterns of problems exhibited at administrative levels. According to research reviews that have been reported by Wee (2013), there are three main challenges in conducting quality PE. These are teacher-related, student-related, and administrative-related challenges in Malaysian education settings. It is confirmed by Mohamed et al. (2019) that indeed administrative-related challenges pose the biggest obstacle in the delivery of a quality PE programme, with issues such as Supervision/Monitoring of PE teaching, expendable PE classes, staff training programme, lack of facilities and equipment. A more recent study which was carried out in Malaysian primary schools by Wee (2019) shows little to no supervision or monitoring

of PE teaching, no observation plan was carried out and lessons were not prepared by teachers. In 2011, The Star newspaper also reported similar outcomes that quality PE programmes were facing. Wee's (2017) study appeared to corroborate the ideas of Aboshkair et al. (2012), who reported that there was indeed limited support from school leadership. Furthermore, although PE is a compulsory subject, Malaysian PE classes are frequently replaced to teach 'more important' subjects particularly during examination week (Aboshkair et al., 2012). The findings by Aboshkair et al. (2012) appeared to be consistent with Ali's et al. (2014) study, which showed that 81% of teachers perceived there were inappropriate class combinations during the teaching of PE. Their findings suggest that PE classes are indeed often used for other subjects whenever exams are approaching. Apart from that, Ali et al. (2014) found an obvious lack of facilities for teachers to carry out effective classes, and it was also reported that 81% of teachers perceived that there was an improper use of the PE budget at the administrative level. For these reasons, PE has been side-lined in various aspects, from being expendable to a failure to secure more resources and equipment as well as incompetent methods of teaching PE. Clearly, priority and attention in educational support and evaluation tend to be given to 'more important' subjects, i.e. Literacy, Science, and Mathematics, whereas PE is marginalised by not having a proper evaluation or management support from the administration (Hardman & Green, 2011).

For decades, leadership has always been seen as a vital factor in organisational effectiveness (Hallinger & Heck, 1999). In educational settings, although the context of school leadership has been rapidly changing, administrators, specifically the principals, still play a decisive role in influencing teachers' motivation, leading and managing the development of the school, devising school policies and delivering curriculum to meet its educational goals cohesively (e.g., Pont et al., 2008). More specifically, the head of school and its lieutenants have a strong influence on the school culture, subsequently impacting the teaching and learning of both teachers and students (Turan et al., 2014). As such, to combat issues of marginalisation, social isolation, and ineffective teaching practices of PE programmes, an effective school leadership is needed at the administrative level. Quality schooling is increasingly dependent on leadership, particularly the effectiveness of the educational leadership of the principal (Hallinger & Heck, 1999). Burkhauser's (2017) study discovered that teachers' perception of the school environment depends on the type of leadership skills principals demonstrated. This is because they are ultimately the key movers in the improvement of efficiency and equity of schooling (Pont et al., 2008). These studies collectively support Rainer's et al. (2012) study that, despite the various challenges in nurturing an environment for quality PE implementation, principals who are committed to supporting PE would ensure better strategic planning and more effective

use of resources to assist their teachers in implementing PE policies.

The classic, effective leadership is instructional leadership, once a favourite in many schools globally. It primarily emphasises on ensuring the pedagogical goals of the school are met by using a leader’s authority in contributing towards teachers and students’ achievement (Hallinger & Heck, 1999). Burns (1978) developed the transformational leadership concept which emphasised on developing others to support one another, raise one’s morality and motivation to a higher level as well as support the organisation as a whole. A combination of instructional and transformational leadership is the basis of the study’s conceptual framework. In successful schools, school leaders are able to combine ‘collaborative capacity building with a keen pedagogical focus’ (Day & Sammons, 2016). They are able to carry out leadership that is both transformational and instructional/pedagogical in its focus.

With theories of leadership and attitude, the hypothesised conceptual framework of this study is based on the interaction of experience, attitude and leadership as presented in Figure 1.

Taken collectively, there have been no reliable studies that examine the principals’ attitude in PE implementation, which leads to a scarcity of information about school principals’ insights and outlook towards PE implementation in schools. This current study, therefore attempted to examine the attitude of administrators towards the quality implementation of PE programmes, specifically the actions or behaviour they exhibit in the implementation within their schools. A quantitative approach was adopted in an attempt to examine principals’ attitude towards PE implementation domains: *a) supervision and monitoring; b) professional development; c) support & allocation; and d) resource and curriculum.* In addition to the aforementioned items, seven personal variables (e.g., *gender, years*

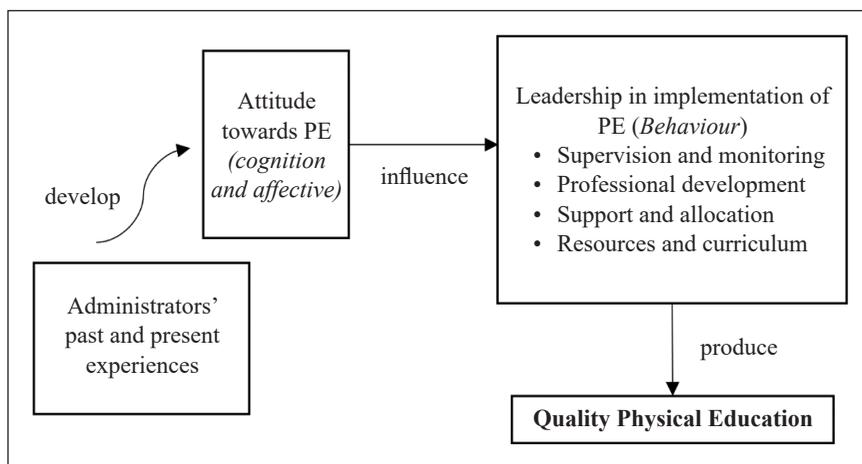


Figure 1. Research framework of attitude, leadership and quality PE

of teaching experience, working experience as a principal, type of schools, academic qualification, professional qualification, physical activity level) were used to compare attitude among groups across each variable towards PE implementation as well as towards each implementation domain.

LITERATURE REVIEW

Leadership Models & Effective School Leaders

The principal is the head of the organisation, playing the role of a leader, designer, implementer of change, and curriculum innovation. Besides, his/her role is to determine elective subjects, to design and manage teaching and learning programmes, to ensure adequate teaching and learning resources, and to be a role model in raising the level of professionalism (Nazir, 2019). Such important roles require a better understanding of how to lead a school effectively. A principal ought to understand their style of leading in order to better leverage on their existing strengths (Peterson, 1999).

There are two types of leadership that are commonly practised in educational settings: Instructional and Transformational leadership. Instructional leadership is well known as a key traditional leadership model and is the most frequently used model in schools. These leaders are largely interested in enhancing instruction, tracking pupils' behaviours in or outside the classroom, assessing students' achievement scores, optimising teacher performance,

promoting professional growth, and closely supervising academic development progression (Hallinger & Heck, 1999). As for transformational leaders, they put their trust in their followers and allow them personal space for professional growth (Leithwood, 1994). Principals who embrace this leadership style will be setting an example to inspire employees to place their organisations' needs above their own self-interest. Innovative and creative initiatives are highly appreciated and encouraged among members of the schools as their leaders are risk-takers. According to Leithwood (1994), a collective vision can only be achieved when leaders do not fear experimenting with unconventional methods.

The existence of many types of leadership perhaps carries one agenda: to be an effective school leader and manager. School leadership involves a very complex role as leaders must equip themselves with the relevant knowledge and skills to overcome various challenges in order to produce quality education and effective schooling (Hallinger & Huber, 2012). To ensure high performing and quality leaders are placed in every school, the Malaysian School Leadership Competency Standard or known as Standard Kompetensi Kepengetuaan Sekolah Malaysia (SKKSM) was formulated and it sets the minimum competencies for school principals. With such stated competencies, it is the principal's responsibility to ensure quality PE is achieved as encapsulated by UNESCO (2015).

PE issues (Turner et al., 2017) have been persistently on-going for many years. Rainer et al. (2012) concluded that administrators were the main stakeholders in effecting change at the school level. While their study suggested that headteachers experience a number of challenges in attempts to create a high-quality PE environment such as policy development, overseeing managerial work, public relations, quality assurance, and the curriculum; they opinionated that the head of school must be responsible in providing the leadership and support necessary to nurture an environment that allowed for quality PE delivery.

Even though school leaders are aware of the importance of PE, findings show that school policies and an educational environment do not necessary reflect this awareness. Zeng and Meng (2014) stated that while a majority of principals did have positive attitudes toward PE, unfortunately, principals from poorer schools in rural areas appeared to see no value in PE. Again, to achieve quality PE, the responsibility lies with the administrators at the school level as the design and implementation of the DSKP curriculum and plans can only work with the effective involvement of school administration (Jemaah Nazir, 2019); specifically, by implementing UNESCO's (2015) national strategy for quality PE based on five pillars:

- Teacher education, supply, and development
- Facilities, equipment, and resources
- Curriculum flexibility
- Community partnerships
- Monitoring and quality assurance

Quality Physical Education (QPE)

PE is known as a process of learning that uses the knowledge of health, fitness, and skills education to develop the whole person, mind, and body. Hence, children's lives should involve both physical activities and PE as they are important (Shimon, 2019). Similarly, McKenzie (2001) stated that PE functions as the most critical role in the promotion of health and activity. According to Vilhjalmsson and Thorlindsson (1998), it is strongly accepted that PE has a role to play when it comes to influencing physical activities in leisure time, as PE encourages positive activity interactions as well as education. In that case, it is critical to look into how PE plays an effective role in encouraging active lifestyles and providing all students with the opportunity to participate in satisfactory levels of physical activity (Cardon & De Bourdeaudhuij, 2002). UNESCO (2015) defines the term Quality Physical Education (QPE) as:

“The planned, progressive, inclusive learning experience that forms part of the curriculum in early years, primary and secondary education. In this respect, QPE acts as the foundation for lifelong engagement in physical activity and sport.”(p.9)

PE in Malaysia had been made mandatory as stated in 1979's circular letter, (Ministry of Education, 1979) which aimed to enhance the development of PE curriculum. In line with the National Education Philosophy, the role of PE is to form positive psychological, social, and cognitive growth development. This

strongly supports the importance of PE in nurturing the “whole child” where currently, the subject is mandatory in all public schools. The current PE curriculum (KSSR PJK) was formulated based on the National Education Philosophy aimed at producing a balanced, physical, emotional, spiritual, intellectual and social generation in line with the National Sports Policy (KPM, 2017) as well as many other international well-known bodies and organisations. The main objective of the Malaysian PE curriculum aims to develop students who are knowledgeable, skilled, and possess positive values and attitudes in maintaining physical fitness and to produce students with 21st-century skills (KPM, 2017).

Concept of Attitude and Decision Making

The study of attitudes has a long and rich history in social psychology (Eagly & Chaiken, 1993). As coined by Allport (1935), attitude is “*a mental and neural state of readiness, organized through experience, exerting a directive or dynamic influence upon the individual's response to all objects and situations with which it is related.*” It explains that if someone has a positive or negative experience with an object, the way they will respond and behave towards that object in the future will be affected. The list of the essential characteristics of attitude provided by Allport (1935):

- preparation or readiness for favourable or unfavourable responses
- attitude is organised through experience

- attitude is activated in the presence of all objects or situations with which the attitude is related

In short, an attitude involves three components (Morris, 1976): feeling, thought or belief and an action. In this connection, Sherif and Sherif (1969) pointed that an attitude is a “*...set of categories for evaluating a domain of social stimuli ...*”. What is meant is that attitude is a continual of whole judgement, which he establishes as he learns about the objects, values or ideas. In return, he relates himself to the domain with various degrees of either positive or negative effects.

In a study by Juliusson et al. (2005), she stated that past decisions directly impact the decisions people make later in the future. Luke and Sinclair (1991) revealed that the major factors affecting both positive and negative attitudes toward PE among male and female adults were the K-10 PE experiences that they went through. Most importantly, the determinants of such experiences and attitudes towards PE in their grown-up life are due to curriculum content, teacher behaviour, class atmosphere, student self-perceptions, and facilities.

Attitude and PE Leadership Effectiveness

With frequent reports on how teachers and school leaders mishandle the PE subject, it is not surprising to deduce that they have little interest in the subject itself. Evidently, such situations were identified to be related to the administration's leadership attitude

in PE decision-making. For instance, administrators in suburban and rural schools seem to lack leadership qualities, and PE is planned without a goal in mind, especially as the subject is deemed unimportant (Rami et al., 2020). Due to this attitude, it is usually marginalised by the administrators in various forms, e.g., lack of consideration in assigning teachers to teach PE, non-major PE teachers teach the subject and make little effort in organising school sports or PE programmes in Malaysia (Wee, 2017). Coincidentally, several studies conducted in China on the attitude and belief of the principals found that principals from the “Poor/Developing-region” school system believe PE is less important than other courses (Zeng & Meng, 2014). It is the responsibility and duty of principals to run the whole curriculum (Rainer et al., 2012) as stated in the Education Act 1996.

Attitude and Gender towards PE

Whilst experiences may be the main source of determining one’s attitude, there is another element we should look at - gender. Boutilier and San Giovanni (1983) summarised that “the traditional polarisation of sex roles has produced in our society two different kinds of human beings - women and men - who are expected to play different roles, hold different attitudes, espouse different values, and express different feelings”. Not surprisingly, children possess a definite attitude towards PE and physical activity the moment they enrol in secondary school. Males and females demonstrated differing attitudes towards PE according to some

studies (Bogale et al., 2018) yet some studies revealed no differences between males and females.

METHODS

Sample

There are 622 primary schools in all Selangor districts (Ministry of Education, 2020). Five districts in Selangor were selected in the random sampling procedure out of the 10 Selangor districts proportion. Then, stratified random sampling was carried out to determine the sample size of 250 participants out of a total of 372 schools (from the 5 districts). Since there are three types of schools, the national school (SK) and national-typed schools (SKJC & SJKT), the ratio of 3:1:1 stratified random sampling was used to reduce sampling error and ensure a more equal representative from different types of schools. This is because national school (SK) has a larger number than national-types schools (SKJC & SJKT) in Malaysia.

Measuring Instrument

The Likert scale instrument that was used in this study to measure leadership attitude and implementation practices towards PE, was developed by Rhine (2011). It was adapted and modified. The survey had a mixture of open-ended questions and scale questions. The survey had two parts:

Part 1: Independent socio-demographic variable data (which are represented by gender, years of teaching experiences, years as a principal, types of school, academic

qualification, professional qualification, and physical activity activeness were used to measure the attitude level between selected attributes.

Part 2: Four domains of QPE implementation in evaluating principals' attitude: - Supervision & Monitoring, Professional Development, Support & Allocation, Resource & Curriculum. Each domain had several statements for respondents to state their extent of agreement: "strongly disagree", "disagree", "neutral", "agree" or "strongly agree". The items were formed base on the leadership theories. With multiple items on the same broad object, these codes could be summed or averaged to give an indication of each respondent's overall positive or negative orientation towards that object. The scales had a summated mean range of 1.00 (high level of negative attitude) to 5.00 (high level of positive attitude). A mean of 3.00 is considered neutral; a mean above 3.00 is considered a favourable attitude towards PE implementation, whereas a mean below 3.00 is considered as unfavourable attitude (Johns, 2010). The internal consistency reliability of items was applied after the pilot study and had a Cronbach alpha of $\geq .73$.

Data Collection Procedure

The MOE and Selangor State Education granted permission to conduct the survey in schools. A mixed-mode survey design was utilised and the strategy of "*multiple contact modes and response data collected by a single response mode*" (Dillman et al.,

2014) was applied. The survey was created through Google Form, an online survey administration tool offered by Google according to the procedure recommended by Dillman et al. (2014). The consent letter and link to the survey were then emailed to potential participants. A postal mail with similar introduction was sent to the schools as the third reminder for those who had not responded to the online survey.

Data Analysis

Descriptive parameters (frequencies, mean, and standard deviation) were calculated based on the four implementation domains. The basic independent variables include the gender, years of teaching experience, working experience as a principal, types of schools, academic qualification, professional qualification and physical activity level. The dependent variables include attitude towards the implementation of a quality PE programme.

One-Way ANOVA test with the level of significance $p=0.05$ was used to compare means of overall attitude in each implementation domain, means of overall attitude across the groups within the demographic variables and means of attitude in each domain across the groups within the demographic variables. It was used to compare means of each domain (research question) across the groups (i.e., SK, SJKC, and SJKT administrators). Independent T-test with the level of significance $p=0.05$ was used to compare groups between males and females in PE implementation attitude. The magnitude of the difference between the variables (effect size) was calculated too.

RESULT

Descriptive statistics were used, and the average distribution was M= 3.88 (Table 1), indicating that administrators “sometimes” to “often” have a positive attitude towards PE. The total mean attitude suggested that the overall administrators’ attitude towards QPE implementation was positive oriented. Nevertheless, the orientation of the positive attitude was deemed low as the range of mean scores were in the middle of the Likert-scale spectrum. Attitude towards professional development (PD) domain had the highest mean score = 4.04 (SD = .577) while S & M, S & A and R & C domains

obtained mean scores of 3.69 (SD = .612), 3.92 (SD = .575) and 3.86 (SD = .608) respectively.

Tables 2, 3 and 4 show the comparison in sub-scale of each implementation domain. One-way ANOVA results in Table 2 revealed that overall attitude towards QPE implementation showed a statistically significant difference between four domains of quality PE implementation [F (3, 324) = 4.737, p = .003]. In addition, principals’ overall attitude towards PE implementation based on personal variables (Table 3) revealed a statistically significant difference between different types of school groups F

Table 1
Mean attitude scores for participants in four implementation domains and their overall attitude score

Domains	No. of statements	Mean	SD	Mean interpretation of attitude
1. Supervision & monitoring	3	3.69	.612	Low positive
2. Professional Development	3	4.04	.577	High positive
3. Support & Allocation	5	3.92	.575	Low positive
4. Resource & curriculum	2	3.86	.608	Low positive
Total Attitude	328	3.88	.604	Low positive

Table 2
One-Way ANOVA in overall attitude towards PE implementation

Measure	df	F	Sig.	Post Hoc Tukey HSD
Implementation of PE	3, 324	4.737	.003	S & M and PD (.002)*

Note. *P value mean difference is significant at the 0.05 level.

Table 3
One-Way ANOVA in overall attitude towards PE implementation based on personal variables

Measures	F	η ²	Post Hoc Tukey HSD
1. Types of schools	3.659 (.030*)	.085	SK & SJKC (.023)*
2. Academic qualification	3.440 (.012*)	.152	Ph.D & Other (.032)*
3. Professional qualification	3.155 (.029*)	.108	Cert. in Edu. & Degree in Edu. (.022)*
4. Physical activity level	4.080 (.010*)	.136	Sedentary & Active (.017)*

Note. *P value mean difference is significant at the 0.05 level.

Table 4
One-Way ANOVA in attitude towards each implementation domain based on personal variables

Measure	Supervision & Monitoring		Professional Development		Support & Allocation		Resource & Curriculum	
	F	Post Hoc Tukey HSD	F	Post Hoc Tukey HSD	F	Post Hoc Tukey HSD	F	Post Hoc Tukey HSD
1. Years of teaching experiences	8.495 (.000)*	10-13 years & 14-17 years (.016)* & 10-13 years & 18-21 years (.000)*	-	-	-	-	-	-
2. Type of schools	9.693 (.000)*	SK & SJKC (.000)* & SJKC & SJKT (.021)*	3.515 (.034)*	SK & SJKC (.046)*	-	-	-	-
3. Academic qualification	-	-	3.023 (.023)*	Degree & Others (.050)*	3.388 (.013)*	Degree & Others (.010)*	3.310 (.015)*	Master & Ph.D (.013)* & Ph.D & others (.043)*
4. Professional Qualification	-	-	4.374 (.007*)	Cert. & Degree (.003)*	3.717 (.015)*	Cert. & Degree (.063)**	-	-
5. Physical activity level	2.842 (.024)*	Active & Low active (.088)**	-	-	3.177 (.029)*	Sedentary & Active (.016)*	2.842 (.043)*	Sedentary & Active (.065)**

Note. *P value mean difference is significant at the 0.05 level. ** Post Hoc P value >.05 is interpreted with caution.

(2,79) = 3.659, $p = .030$; different academic qualifications $F(4,77) = 3.440$, $p = .012$. ; professional qualification levels $F(3,78) = 3.155$, $p < .029$; and physical activity levels $F(3,78) = 4.080$, $p < .010$.

In Table 4, the differences of attitude in each PE implementation domain (S&M, PD, S&A, R&C) based on demographics showed a statistically significant between the five personal variable groups: i) *years of teaching experience*; ii) *types of school*; iii) *academic qualification*; iv) *professional qualification*; and v) *physical activity level*. Specifically, different levels of teaching experience groups showed a statistically significant difference in S & M domain $F(2,79) = 8.495$, $p < .001$ whereas different type of schools showed a statistically significant difference in S & M and PD domain $F(2,79) = 9.693$, $p = .000$ and $F(2,79) = 3.515$, $p = .034$. Gender, years of teaching experience and working experience as a principal had P -value $> .05$.

Furthermore, level of academic qualifications revealed that there were differences in attitude in PD, S and A and R and C domain $F(4,77) = 3.023$, $p = .023$; $F(4,77) = 3.388$, $p = .013$ and $F(4,77)$, $p = .015$ (Table 4). Similarly, attitude among different professional qualifications demonstrated a statistically significant difference in PD and S & A domains $F(3,78) = 4.374$, $p = .007$ and $F(3,78) = 3.717$, $p = .015$. However, post hoc Tukey result in S & A domain between Certification & Degree in Education had a p -value of $.063^{**}$ (Table 4). The researcher suspects that one or more of the pairwise comparisons was borderline

and one of those almost had to be significant ($p=.063$). These findings of course need to be interpreted with caution because they were not statistically significant as it may be due to small sample size and low power.

Physical activity levels also showed differences in principals' attitude scores in R and C, S and A and S and M domains $F(3,78) = 2.842$, $p = .024$; $F(3,78) = 3.177$, $p = .029$ and $F(3,78) = 3.311$, $p = .043$. Post hoc Tukey result in R & C domain between Sedentary & Active had a p -value of $.065^{**}$ which needs to be interpreted with caution (Table 4). Gender and working experiences as a principal had P value $> .05$.

DISCUSSION

Based on previous research conducted on teachers' perception towards school administrators' leadership in PE, a majority of findings indicated that the teachers felt school leaders had not been providing a supportive role in managing the Instructional Programme or promoting a positive PE learning climate (Wee, 2019).

Surprisingly, this current study revealed differing results, in which school leaders had shown a positive attitude in the four common domains of leadership. The overall attitude leans towards a more positive note; however, within each investigated attribute showed different degree of favourable attitude, e.g., types of schools, academic level, professional qualification, and physical activity levels. Types of schools and years of teaching experience contributed differences in the S and M domain whereas academic and professional qualifications

showed major differences in the PD and S & A domains. Most studies in Malaysian school settings revealed that administrators placed less emphasis on implementing and monitoring of PE (e.g., Wee, 2019) as school administrators were more concerned about other “core” subjects and less concerned about taking corrective action after a PE supervision. To some degree, the findings of the current study held some consistency with the above studies, depending on types of schools. The study revealed that principals leaned more towards managerial behaviour rather than the integration of functional and personal touch. They widely acknowledged the importance of professional development (PD) by allocating budgets, yet questionnaires showed that the topic of PD ranked the lowest in conversations between teachers and principals in how to improve PE. Besides, a majority of principals attempted to allocate sufficient budget for the PE subject but implied funding from the government fell short in this aspect, especially considering the expensive prices of equipment.

Academic and Professional Qualification

With the findings from this study, it may be noted that as one is more educated, there is a higher likelihood that they will see the importance of having adequate funding as well as upskilling the teachers in providing quality PE. It is believed that the quality of school learning is determined by the performance of principals (Andriani et al., 2018). As principals are the determinant

of a school learning experience, thus, it is clear that the principal's performance and leadership significantly influences the quality of learning. A school principal requires a series of appropriate leadership skills to raise standards of achievement, leading school improvement, maintaining school effectiveness, and enhancing the quality of teaching in schools (Piaw et al., 2014). Such studies confirm the association that quality education and teaching in schools were seen to be influenced by the educational background of the principal (Purwanto, 2001). If a school principal has a higher academic or professional qualification, the quality of education and teaching received by the students will be better. A possible explanation for this might be that when the principals believe in personal development, they will also support the welfare teachers to ensure quality PE learning and teaching experience.

Types of Schools and Years of Teaching Experience

One unanticipated finding was that principals from different types of schools (SK, SJKC & SJKT) demonstrated varying degrees of attitude in supervising and evaluating teachers' PE lessons as well as the monitoring of students' progress. Notably, despite SJKC schools leaning towards a positive attitude, they promote a far less positive school culture in instructional supervision and professional development as compared to SK and SJKT. It is believed that this stems from how the social and cultural imperatives of PE have been increasingly disregarded,

resulting in the perceived low social value of PE and PA in contributing to society (Peters, 2015).

Meaningful PE experiences are influenced by the value the learner attributes to PE (Chen, 1998). The value towards PE and positive engagement of PE are greatly influenced by demographical or socioeconomic factors such as gender and family background (Beni et al., 2017). Reconnecting back to an earlier literature review by Allport (1935) on how experiences affect decision making, the review is supported Rickwood (2012) that if principals have negative experiences with PE educators or PE itself during their younger days or have undergone a perceived low-quality PE programme, such experiences may have an impact on the principal's intention to promote PE. Prior to becoming a principal, he/she had gone through a period of teaching, and this experience enhanced their existing beliefs about their roles and responsibilities as a teacher (Pajares, 1992). During that time, their belief of PA and PE may have been further reinforced by the existing school culture towards PA and PE, which was either negative or positive. Their perception of education, instructional behaviours, and student learning outcomes was then influenced by these personal experiences which substantially formed their values and beliefs (Xiang et al., 2002). As such, if principals go through a school culture that puts little priority in supervision of PE instructional programmes and professional development, he/she may impose a similar

culture in future schools that he/she will lead. In the end, favourable attitudes and the active promotion of PE in schools appear to be related to past behaviours that precede intentions for future behaviour as suggested by Rizzo's (2020) study.

Another compelling attribute that affected the various degrees of favourable attitude towards the implementation of quality PE is the years of teaching experience. While there was no significant difference in the overall attitude towards the implementation of quality PE, it is worth noting that years of teaching experience plays a role in one of the implementation's sub-scale domain - supervision and monitoring. Hou et al. (2019) found that the difference between experience phases influences quality curriculum implementation, as principals with higher number of years in the teaching profession will result in higher school effectiveness & performance. In other words, years of teaching experiences shape the way principals lead schools and PE. Hence, promoting a positive and quality school learning climate is directly influenced by what a principal has gone through their lifetime as a teacher.

Physical Activity Level

Interestingly, although the results show a favourable attitude towards all domains of implementation, there is an absolute difference in that positive attitude among principals who are sedentary and active. The results indicated that school principals who were involved in organised physical activity were more likely to possess a higher

favourable attitude towards administering quality PE programmes as compared to less active principals. This is possibly due to their positive personal meaningfulness with PE that translates into confidence to promote quality PE (Rizzo, 2020). Another possibility is that these principals enjoyed experiences that were fun, social, stimulating, and satisfying, leading them to commit to a physically active lifestyle (Beni et al., 2017). Generally, taking a strong interest in healthy living means that one believes in promoting PE. With that, the supportive roles in leading the PE programme in many ways contributes to the improvement of school culture for physical educators (Bechtel & O'Sullivan, 2007) and, in turn, may enhance academic performance for students through increased participation in quality PE.

Gender

Numerous studies carried out stated that males tend to favour a more positive attitude towards PE subjects. Females, even with a positive perception towards PE, did not translate into actual practice during PE lessons. With such results, perhaps it is natural to conclude that females tend to have a lower attitude as compared to males. But we cannot generalise it to include adults as those studies were done with children and adolescents. In Coulter et al.'s (2020) study, parents (male and female) had positive attitudes towards their school's PE programme. Having said that, the current results do not show any differences in the implementation of a quality PE programme

between both genders. In other words, both female and male principals favour PE and believe in the importance of it. In this sense, whether female or male principals run the schools, both genders do behave similarly when carrying out a quality PE programme. It is possible that in the 21st century, our society's views have massively changed towards gender roles, such that females are no longer expected to hold different attitudes or adopt different values than male counterparts, as traditionally polarised (Boutilier & San Giovanni, 1983).

Implication

The current study demonstrates that principals' attitude is favourable towards quality PE implementation, and it does not share similar sentiments with previous studies (Wee, 2019). In general, principals' attitudes and behaviours may not be intentional if they were seen to display a negative propensity towards PE. They may have been silent cheerleaders, supporting the efforts of PE teachers. Whilst the principals may have a more positive inclination, this disposition may not have shared with the same eagerness as their lieutenants i.e., senior assistants. Often, senior assistants are empowered to manage the school's curriculum so there may be a clash of different attitudes towards PE.

Different types of schools may place different priorities in quality PE implementation. Such connections likely exist in schools with a majority of one single ethnicity, which ultimately projects their social values towards PE. It is believed

that cultural differences such as ethnic background and upbringing have an impact on PE, sport, and other leisure activities (Figueroa, 1993). The findings implicate that active individuals may help to strive for a physically educated and physically active school community.

It should be noted that this study was carried out during the nation's first outbreak of COVID-19, where physical education classes were amongst the earliest subjects to be cancelled due to health and safety concerns. With the outbreak and the nation's Movement Control Order (MCO), all subjects' instructional time were reduced to 1-2 hours screen time per day for online learning, including PE (KPM, 2020). To date, a few studies have shown that the effects of long-term school closure on learning due to natural disasters have impacted students' academic development (Andrabi et al., 2020). Likewise, the potential impact of this pandemic on students' holistic development has aroused deep concern amongst educators (Arumugam, 2020).

CONCLUSION

Evidently, possessing a positive attitude is the first step to quality PE, and cultivating an active school culture through physically active teachers and administrators will definitely raise the value of physical education.

Although the current study is based on a low response rate of participants, the findings suggest that principals play their roles to create positive PE environments. It is advocated that future research considers

a larger geographic area and socioeconomic status of other school districts in other parts of Malaysia to explain the differences found between the different ethnicities, academic and professional qualification at Malaysian primary schools. Moreover, further research needs to closely examine the links between administrators, especially principals, senior assistants and teachers. There is also a need to study the correlation between school culture and teachers and administrators' intention of promoting quality PE. Future research should therefore focus on the investigation of leadership in PE and the intention to further promote PE.

ACKNOWLEDGEMENT

We would like to thank the respondents who have contributed to this study and the Ministry of Education for consenting to this research. We wish to acknowledge and thank PACU (Faculty of Educational Studies) for their support in publishing this article.

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Exploring Pre-University Students' Construction of Reasoned Argumentation during Computer - Supported Collaborative Discussions Using Sequential Analysis

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ABSTRACT

The prominent role of reasoning skills in predicting academic outcomes is clearly evident over the years in that its inculcation in various face-to-face learning contexts has become progressively dominant, including in the collaborative learning (CL) settings. The pandemic crisis, however, challenged traditional learning approaches to shift to an online mode overnight resulting in dramatic changes of learning delivery whereby teaching is undertaken remotely and on digital platforms. Though impact of CL-based approaches in promoting reasoning skills have been well-documented over the years, a systematic analysis of learners' behavioural patterns of argumentation and reasoning in a virtual collaborative learning environment is yet to be concretely established. The current study therefore sought to investigate the development of reasoned argumentation skills among pre- university students with mixed language abilities, using open-ending short stories via a computer-supported collaborative learning (CSCL) environment. Adopting the case study research design by applying a mixed-methods approach through both descriptive and sequential analyses, 12 pre-university students from a public research university served as participants of this study. The results show that language ability has a strong predictive factor on reasoned argumentation skills and there is an established tendency of the participants to produce constructive arguments over defensive or challenging viewpoints to alternative ideas. This calls for future studies to further investigate predictive factors

of this tendency and to further ascertain the predictive role of language-rich discussions in facilitating various higher order thinking skills among learners.

Keywords: Collaborative reasoning, computer-supported collaborative learning, reasoned argumentation skills, sequential analysis

ARTICLE INFO

Article history:

Received: 13 November 2020

Accepted: 11 March 2021

Published: 14 April 2021

DOI: <https://doi.org/10.47836/pjssh.29.S1.17>

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INTRODUCTION

Arguing is about putting forth one's disagreement; a general perception that has been speculated over a collaborative form of knowledge construction. The undeniable role of argumentation in information transfer and decision making has been studied over decades by researchers across disciplines. Argumentation is a social activity, rooting from different cultural and historical dimensions (Asterhan & Schwarz, 2007) while reasoned argumentative practices have always been the start and endpoint of a discussion (Van Eemeren, 2017). Reasoning skills were found to be substantial, in various thought processes such as decision making and critical thinking (Chinn & Samarapungavan, 2009). It enables the learner to formulate, learn and apply knowledge, promoting a better human civilisation. In today's VUCA world, the readiness to learn, unlearn and relearn, learning agility is the product of being able to reason progressively through continuous scaffolding processes. It is crucial for change agents such as teachers, policy makers and parents to anticipate and embrace the relevance of cultivating reasoned argumentative practices among learners. It has been the primary goal of the education system across the globe to equip learners to think critically and based on logical reasons, emerging from various viewpoints and conceptualize it according to the needs of the society. Reasoned argumentation has been highlighted as the key change in introducing an educational paradigm shift, ranging from primary to tertiary learning settings. The

shift in the global education system needs has caused a total flip in the roles presented in a conventional classroom. Contrarily, there is a global consensus that students are easily bored and distracted by the one-way, teacher-dominated interaction largely present in today's classrooms. Students in these classrooms are merely receptors of the information provided to them and are not encouraged to contribute their own out-of-the-box answers or questions.

It is important to retain students' attention by allowing them to participate voluntarily in learning sessions. Imposing gradual cognitive challenges through democratic discussions could cater to the growth of students' contextual knowledge, leading to an inclusive and a wholesome classroom interaction. A study on Malaysian students' critical thinking skills reveals that even after 11 years of schooling, the students failed to apply a proper reasoning on their judgements, be it in school or real world- related issues (Ghadi et al., 2013). This was further investigated through a larger study by Md Yunus et al. (2005) who found that the reasoning skills among the undergraduates from seven public universities were at a low moderate level, leaving a concern on the type of thinking workforce that we will produce in the coming decade. Reasoning skills should be taught in such a method that it is facilitated through exchange of ideas, feedback and by integrating application-related issues to learners. However, the current education scenario does not resemble such a learning environment and still focuses more on

textbooks, seat-work and revision books (Anisah & Delina, 2019). This will only allow for development of students' lower order thinking skills, neglecting the act of improvising their answers through argumentation and reasoning. Lee (2004) emphasised on how the Malaysian education system was still practising a didactic approach, using conventional exam-oriented pedagogies. This finding is supported by Ekwunife-Orakwue and Teng (2014) who argued that the implementation of such practices only focused on how to attain excellent grades instead of learning the content. In line with this, Darling-Hammond et al. (2020) argued that students were more driven to employ surface learning and study only to attain excellent grades rather than to engage in meaningful learning experiences and comprehend the subject matter, of which this defeated the actual purpose of education.

Karthikeyan (2017) characterised the current generation of learners as a society that lacked professional boundaries, influenced by socialization, demands an entitlement and lack of critical thinking skills. Collaborative learning (CL) in the form of argumentation-based approaches to learning alternatively promotes an in-depth understanding towards a specified content, giving a longer effect for learning gains to sustain (Nussbaum, 2008). To refine the umbrella term of CL, Anna et al. (2008) identified strategies in implementing an in depth argumentative discourse in classrooms through dialogic approaches. Collaborative reasoning (CR), is one educational dialogic approach that

centralises on the dialogic inquiry as its main pedagogy that provides an open participation structure. Such an interactive discussion will encourage students to voice out their views and at the same time defend the views with proper reasoning as the views get opposed by others. Rogoff et al. (1995) proposed that learning took place during collaborative discussions as students were able to present their existing knowledge, and were competent enough to grow their ideas through fruitful peer interactions.

With the prevalence of the pandemic however, the computer-supported collaborative learning (CSCL) with the guide of advanced digital learning innovation has become progressively dominant in an assortment of instructional setting in supporting students' participation for authentic proof activities (Fatimah et al., 2020). The efficiency of such mediating agents has been extensively studied but a systematic analysis of learners' behavioural patterns of argumentation and reasoning in a virtual collaborative learning environment is yet to be concretely established. Therefore, this study intended to analyse the development of reasoned argumentation skills among pre- university students using the computer-supported collaborative learning (CSCL) approach and socio-scientific issues (SSI). This contributes to addressing the role of discussion and critical thinking skills in increasing students' academic performance through a facilitated in-depth argumentation. Specifically, the current study sought to analyse the level of the participants' English proficiency prior

to participating in the CSCL discourse, to explore the levels of the participants' reasoned argumentation during a five-session CSCL discourse, to examine the relationships between the participants' English language proficiency and their reasoned argumentation levels in a five-session CSCL discourse, and to explore the transition state of students' reasoned argumentation strategies in a five-session CSCL discourse.

Argumentation Facilitates Critical Thinking Skills

Argumentation has been considered as one of the foundational tools that constitutes social knowledge in a specified context, based on its nature as a dialogical approach (Resnick et al., 2017). The probabilities of students to co-construct their knowledge and refine their collective understanding towards a topic discussed are higher in an argumentative discourse compared to a static, one way information exchange, be it in an educational or a social setting (Felton et al., 2015). Based on the comparison, it was found that argumentation serves three (3) main purposes in fostering students' critical thinking competency; an exchange of competitive ideas, critical analysis on the given ideas, and the social arbitration of meaning to be assigned. Wolfe and Britt (2008) emphasized that the state of being focused in progressing an argument would eventually drive the students to suppress the opposing views that could possibly be brought up. Such a reaction is known to be a biased act upon a collective approval due

to the lack of skills in critically examining the content and devising a persuasive argument deliverance. Argumentations strive to not only project a structure of conversational discussion but also to deliver the semantics behind it for the approval of its members therefore, the understanding should include a range of structure and meaning for apprehension (Walton, 2010). Being engaged in a complex and two-folded thinking process, students will associate several strategies to reinforce their views, understand the opposing ideas and identify the clashing ground points that need to be discussed in-depth for clarification. An instantaneous response to provide solid counter arguments in a discussion is a product of continuous practice of critical thinking skills, in the form of argumentation.

Berland (2011) pointed out a strong case on how argumentation facilitates learning and thinking skills in general, which included skills and conceptual gains. Researchers (Asterhan & Schwarz 2007; Nussbaum & Sinatra, 2003; Voss & Wiley, 1997) have conducted systematic analyses upon the conceptual knowledge gains that students acquire via argumentative practices. All three (3) studies conclude that argumentation significantly improves conceptual knowledge by encapsulating critical thinking skills within various social and socio-cognitive processes. The need to distinguish the difference between generating an explanation and an argument centralises on the learner to be critical in retrieving information that suits the subject-matter discussed. This includes minimising

the amount of perceived risks (personal peer conflicts and fear to lose friendship), while executing a critical argumentative discussion (Tyson, 2011). Students do agree that argumentation and conflicts are helpful in understanding a topic in learning. However, they perceive disagreement as a lead to negative social consequences. Social risks are among the main predictors of why students end up supporting peer views and suppress their own (Bellmore, 2011). Disagreements in argumentative discussions pave ways to reflect upon an idea and to analyse misconceptions, thus promotes a conceptual change of ideas (Andriessen, 2006). A properly regulated, risk- minimised, and argumentative discussion is beneficial in the field of education due to the increasing level of social sensitivity (Aikins et al., 2005). Therefore, Tyson (2011) proposed technology- mediated discussions to eliminate personal conflicts and to only facilitate argumentative stances.

Reasoning Predicts Academic Performance

Being a thoughtful process, reasoning is crucial in an average individual's life routine and the pattern of it. Researchers (Lin et al, 2015; Lohman & Lakin, 2009) have emphasized important skills as products of reasoning, problem-solving, decision making, critical thinking, meta-cognition and knowledge acquisition. Students with better reasoning abilities tend to draw more conclusions in a problem-solution relationship. A list of generalized reasoning skills was adapted by Bhat (2016) namely,

inductive, deductive, linear, analogical, conditional and cause-and-effect, to be analysed within academic settings. The experiment explicitly imposed that reasoning skills could help students in understanding the underlying concepts of a situation and promote a rational-based approach towards it. Tella et al. (2008) claimed reasoning as one of the essential cognitive abilities that needed to be focused in assessing the impact of education on learning. A lesson that integrates reasoning within its structure, eventually assists students to gain knowledge based on logic and rationality. Having the required domain knowledge is essential in reasoning the initial conceptualization of a problem in order to understand the essential problem-solving strategy. This condition is vital when the acquired knowledge needs to be applied in a different situation and reasoning from various perspectives are required for approval.

Collaborative Learning (CL) Enhances Discussion

Collaborative learning (CL) refers to pedagogies and educational settings that foster cooperation among students in completing a common task where each individual is equally responsible and accountable for the task (Ekaterina & Suzana, 2016). Collectively, students are assigned to seek meaning, relationships, inquiries, and decisions; redefining the conventional teacher- student roles in a classroom. Ekaterina and Suzana (2016) also outlined the significant educational and psychological contribution that

CL could impose upon undergraduate education in three (3) main areas namely cognitive approach, social constructivism, and motivation. Students are found to learn best when they receive perspectives upon ideas, challenged for validation and assessed in a learning environment that provides both independence and interdependence. Lipman (2003) labeled CL as a platform that created a community of inquiry (CI) that was proficient in reasoning, discussing, challenging ideas, and deliberating. Researchers (Chandra, 2015; Lee & Smagorinsky, 2000; Rogoff et al., 2003) have also indicated how engaging CL in classrooms could eventually aid students' academic achievement in certain areas. Looking into a social-interaction based method, it is also crucial to address the possible concerns that can possibly be associated with it during the implementation. Peer facilitation also imposes significant positive impact towards students' academic achievement in various learning environments, such as blended learning (Lim et al., 2020a). CL takes place in a context, and this has rooted issues on both physical and contextual influences (culture, environment, and beliefs) that question the efficiency of CL in promoting collaborative discussions (Sadhana et al., 2011). Therefore, the need to have a tool that can mediate a collaboration, regardless of the contextual influences, were brought by both cognitivists and psychologists. Such self-regulative methods could facilitate students' online learning experience as per mentioned by Lim et al. (2020b). In conjunction with this recommendation,

Tyson (2011) proposed a technology-mediated collaborative discussion which could avoid the elements such as personal conflicts and environmental influences.

The overarching objective of the study therefore, is to analyse the developmental patterns of reasoned argumentation strategies among pre-university students in a CSCL environment. Specifically, it sought to answer the following questions and hypotheses:

1. What is the level of participants' English proficiency prior to participating in CSCL discourse?
2. What is the level of participants' reasoned argumentation during a five-session CSCL discourse?
3. What is the relationship between participants' English proficiency and their reasoned argumentation level in a five-session CSCL discourse?
4. What is the transition state of students' reasoned argumentation strategies in a five-session CSCL discourse?

H₁: Level of language proficiency significantly predicts students' ability to produce claims in a CSCL discourse.

H₂: Level of language proficiency significantly predicts students' ability to produce supporting statements in a CSCL discourse.

H₃: Level of language proficiency significantly predicts students' ability to produce warrants in a CSCL discourse.

H₄: Level of language proficiency significantly predicts students' ability to produce backing in a CSCL discourse.

H₅: Level of language proficiency significantly predicts students' ability to produce qualifiers in a CSCL discourse.

H₆: Level of language proficiency significantly predicts students' ability to produce rebuttals in a CSCL discourse.

METHODS

Participants

The population being studied in this research was pre-university students aged between 18-19 years old, from a Malaysian public research university that offers foundational studies. Based on the Malaysian education system, qualified high school leavers are required to complete a preparatory program before being eligible to pursue their studies at the bachelor's level. This particular group of population was selected in analysing reasoned argumentation because according to Hollingsworth and Rogers (2016), this is the phase where young adults start to consolidate their comprehension on abstract concepts, evaluate consequences and actively test their decision-making skills in an environment. Kremen et al. (2019) had pointed out that cognitive gains are rapid and highly adaptable at the average early adulthood of a learner. The age range that has been widely studied is from 18 to 20 years old. The study has also suggested

the educational quality and cognitive reserves (thinking abilities) to be fostered by improving educational quality and first-stage accessibility towards knowledge.

Quota sampling was carried out to identify the required participants, based on their availability for the study. The total population of the study was 913 foundation students, from both science and agricultural courses. The eligibility to participate in the study is that; 1) the participants should possess a minimal level of English language proficiency, for the discourses, 2) willing to commit throughout the five sessions being conducted, 3) aged between 18- 20 years old and 4) willing to intensively discuss and reflect openly about an issue. Twelve students were selected and divided into 3 groups; 4 in a group, assigned randomly. The sorting was made by their instructors based on their participation and performance in their English classes. The participants who volunteered to join the study were later shortlisted by their English language instructors based on their English language proficiency level, ranging from low, medium and high. The raw score was not available for the researcher to analyse due to the students' privacy protection reasons. The groups consisted of students from each category, as an approach to encourage having students of mixed abilities in every discussion. This is because CR is a structured approach that promotes an open participation among the participants, providing an opportunity to convert their monologues into dialogues within a group discussion (Reznitskaya, 2001). This composition was also expected

to increase the involvement from students, regardless of their vocabulary limitations, self-confidence, and motivational level as per what has been outlined by Miller et al. (2014), in understanding the impact of CR and in facilitating active and reflective participation during CR discussions.

Procedures

CSCL Discussions. Based on a scheduled timing, participants were assembled through the researcher's Google Meet platform, a similar method that has been utilised for their primary learning session in classes. For 5 consecutive sessions, the participants were instructed to discuss and argue upon different short stories which embed real life problems that they might encounter in the future. The stories have an unresolved ending with two options of actions, which required the participants to argue and decide by the end of the discussion. Each group was given a maximum time of 20 minutes for every session to point out their stance and arguments and to sustain it. A total of 15 sessions, 3 groups with 5 sessions each, were recorded using the features available on the online platform. No particular role(s) was assigned to the participants in any of the discussion, leaving the researcher to take up the role of facilitating the discussions. Prompts were only provided if the discussion pauses for 10 seconds and above. An introduction and a conclusion must be made in every discussion, by both the participants and facilitator to reconfirm the decided side(s).

Post Research. The recordings of the discussions were then transcribed to be analysed according to the prepared coding scheme. Both content and sequential analysis were carried out to identify the pattern of reasoned argumentation among the participants. The results were then tabulated for analysis.

MEASURES

Reasoned Argumentation

Toulmin Model of Argument. In order to identify the usage of reasoned argumentation during a CSCL discourse, a content analysis was conducted on the transcribed discussion transcripts. The coding scheme applied in the research was based on the significant Toulmin model (1958), citing on Kulatunga and Lewis's (2013) work in studying both reasoned argumentation and the participation patterns in peer-led sessions. This coding illustrates the type of argument schema produced by the participants during the discussion through a thematic analysis. The coding scheme was divided into two main parts in the argument formulation, which were Creating (C) and Defending (D). Claim (CL) is the controlling idea of the proposed argument which relates directly to the statement to be proved. Support (SRT) is the evidence(s) that support the proposed claim; the strongest persuasive factor for the audience. Meanwhile, warrants (WRT) are assumptions or presumptions layering an argument. It is highly related to the belief/culture/ societal beliefs upon a matter that caused the individual to claim a specific statement. The defensive skills are backing

(BC), qualifier (QL) and rebuttal (RBT). BC is the proof(s) to solidify the attached warrant. QL are the expressions that reduce the certainty of having a prefixed assumption on a population. This addresses probability over the existing definite assumption(s). Lastly, RBT are the objections commonly made over arguments or supporting details that require further clarification. The first three skills are under C which indicate the tendency to formulate an idea and constantly enhancing it by evidence and social values in order to maintain a persuasive deliverance. In contrast, the additional three skills are meant to oppose and clarify opponents' viewpoints by raising confrontative questions during the CSCL discussion. Therefore, the later three skills were categorized as defending (D) in an argumentative discourse. The coding scheme served as the guideline to scrutinise the discussion transcripts, produced in all five CSCL discussions.

Open-ending Short Stories. The groups were presented with an incomplete short story to be discussed during every session. The task was to argue and collectively decide on the ending of the dilemma-based stories, at the end of each 20 minutes sessions. The decision with the majority vote from the team members would be assigned to the story. The stories revolve around possible authentic circumstances that the participants could encounter in their life or environment. Stories that challenge participants' moral beliefs and principles will establish an unbiased space for dynamic dialogic interaction to take place (Reznitskaya et al., 2009).

The content and suitability of the instrument was validated by two senior lecturers from Universiti Putra Malaysia. For reliability testing, two coders coded a total of 1107 stratagems from 5 continuous coding sessions. Stratagems are referred to the analysed argumentative aspects that were found in the participants' raw discussion transcripts. Sets is the term used to describe transcripts from every discussion and a sum of 15 sets were reviewed thoroughly for reliability. The transcripts were coded individually before it was compared between both coders. Reviewing the number of contrasting codes, both coders agreed upon 1103 out of 1107 stratagems that were found to be relevant. This resulted in a 99.81% of inter-coder agreement, and a Kappa value of 0.860. According to Banerjee et al. (1999), a Kappa value ranging from 0.81 to 1.00 is almost a perfect agreement. Therefore, both coders had a good mutual understanding in interpreting the discussion transcripts.

Data Analysis Strategy

The data analyses for this study were collected through two different softwares, SPSS and GSEQ. SPSS was used to tabulate the descriptive statistics which are mean, range, standard deviation and logistics regressions involved in the study. This covers the language proficiency, reasoned argumentation levels and the relationship between the two variables using the Pearson Product Moment Coefficient. The regression analysis was used to examine the predicting factors of language competence on the participants' reasoned argumentation skills.

GSEQ allowed the researcher to perform both content and sequential analyses at the group level. Content analysis has been deployed in order to define the behavioural interactions being presented through a dialogic deliverance. It was used to identify the most persistent argumentative strategy being applied by the participants in the CSCL discussions. Being a prominent method to understand sociological patterns, content analysis has its restrictions in examining the underlying relationship within the strings of coded messages.

These figures were then calculated within the sequential transition matrix calculation (Bakeman & Gottman, 1997), illustrating the possibilities of the most commonly recurring argumentative behaviour in a discussion. This method is known as sequential analysis which requires an intercepting of a z-score greater than 1.96, between both row and column to be declared as significant ($p < 0.05$). Jeong et al. (2011) and Hou (2009) explained the efficiency of using sequential analysis in extracting the development of critical thinking skill within a discourse as it provided a deeper apprehension on the strategies being employed to solve a theme-specific problem. The collected data are known as event sequential data (ESD) which segments the behavioural pattern in a single stream of codes, without any time factor being imposed upon. Prior to its realistic nature, this study applied the event recording scheme of the sequential analysis in collecting raw information from the argumentative discussion conducted. The

tabulated final values were then analysed into a transition state diagram explaining different strategies developed and practiced by the participants in the CSCL discussions.

RESULTS

Demographic Profile

A total of 12 participants participated on a voluntary basis in the 5-week study. The participants consisted of both international and local students who participated in the programme in the English course under different instructors. The participants' language proficiency levels that had been pre-determined by their respective instructors were among the major information of the findings.

There were a total of 25% male participants ($n=3$), followed by the remaining 75% of female participants ($n=9$). As for the participants' nationality, 33.33% were foreign students ($n=4$) and 66.67% were local students ($n=8$). The nationality differs as the pre-university/foundation programme is offered on an international scale. The next major was their English language proficiency levels, which balanced equivalently with the 33.33% for all the categories; high, medium, and low. This composition was deliberately designed to ensure that every group was made up of different abilities in terms of language mastery. The distribution of their demographic details is illustrated in Table 1.

Descriptive Analysis

These analyses explain the first two research questions; a) the level of language

proficiency prior to the participation in the CSCL discussions and b) the level of reasoned argumentation skills during the CSCL discussions. The range, mean, and standard deviation were tabulated to identify both the participants' language and

argumentative skills. These values range from weekly to a grand sum at the end of the fifth session.

The participants' English language proficiency level was indicated by their instructor as low, medium and high. The raw scores were unavailable for analysis due to the confidentiality principles practiced by the faculty's constitution. The categorical information was tabulated and presented as shown in Table 1. A value of range was assigned to every proficiency level recorded.

In order to answer the second research question, this study employed 12 respondents, for five consecutive weeks, consisting of a few elements, which stresses out on the comparison of range, mean and standard deviation. These figures describe the existing level of argumentative skills retained by the participants.

The participants' range of argumentations skills was assessed by a set of constructs, on a weekly basis. The average mean score and

Table 1
Demographic profile of participants

Demographic Profile	Frequency (n=12)	Percentage (%)
Gender		
Male	3	25
Female	9	75
Total	12	100
Nationality		
Local	8	33.33
International	4	66.67
Total	12	100
Proficiency level		
High (3.00)	4	33.33
Medium (2.00)	4	33.33
Low (1.00)	4	33.33
Total	12	100

Table 2
Example of weekly argumentative skills tabulation by construct

Participant	Claim (CL)				
	Week 1	Week 2	Week 3	Week 4	Week 5
SA	Medium	Low	Medium	Low	Medium
FY	Medium	Medium	High	Medium	Medium
SL	Medium	Low	Medium	Medium	Low
NT	Medium	Low	Medium	Medium	Medium
AF	Medium	Low	Medium	Medium	Low
NS	High	Medium	High	High	Low
NA	High	High	High	Medium	Low
SR	Medium	Low	Medium	Medium	Medium
SS	Medium	Medium	High	Low	Medium
LS	High	Medium	High	Medium	Medium
AZ	Medium	Medium	Medium	Medium	Medium
AB	Medium	Low	Medium	Low	Medium

Table 3
Distribution of range for argumentation skills

Variables	Range		
	Low	Medium	High
Weekly			
Claim (CL)	<2	2-3	>3
Support (SRT)	<2	2-8	>8
Warrant (WRT)	<1	1-6	>6
Backing (BC)	<1	1-4	>4
Qualifier (QL)	<1	1-3	>3
Rebuttal (RBT)	<1	1-4	>4
Grand total			
Claim (CL)	<9	9-15	>15
Support (SRT)	<13	13-39	>39
Warrant (WRT)	<7	7-28	>28
Backing (BC)	<9	9-17	>17
Qualifier (QL)	<3	3-17	>17
Rebuttal (RBT)	<7	7-20	>20

Table 4
Total score for argumentative skills

	N	Mean	Std. Deviation
CLTotal	12	12.0833	3.47611
SRTTotal	12	26	13.14257
WRTTotal	12	17.75	11.02167
BCTotal	12	13.1667	4.64823
QLTotal	12	10	7.66337
RBTTotal	12	13.25	6.91671

standard deviation were then recorded as an overall value of the participants' level of the argumentative skills. Table 2 illustrates the example of the tabulation made for the 12 participants in identifying their levels of mastery for CL.

The average mean scores were assessed based on the analysed set of ranges, tabulated in Table 3, varying from weekly to the grand total basis. The number of mean scores

produced by every participant determined their range of mastery for that particular argumentative skill.

The total values according to constructs were tabulated as exhibited in Table 4 for further analysis to answer the second research question.

Regression Analysis

A Poisson regression analysis was conducted to identify the argumentative skill(s) that is significantly predictive by language proficiency within the 5 CSCL discussions. Based on the fourth assumption of the Poisson regression, all dependent variables (DV's) have met the Poisson distribution for the results to be accepted. The observed and expected counts for all six DV's were found to be statistically insignificant to the Kolmogorov Smirnov tabulation results, indicating a high similarity to the Poisson distribution. The use of Poisson regression for this particular research objective has met the vital assumptions of the analysis method:

- I. The six DV's were count data at which the frequency of every skill was recorded in every CSCL discussion, on a weekly basis,
- II. Constitutes one or more IV. This study has only one IV which was the language proficiency of the participants,
- III. Every observation was independent and there was no interdependent relationship between sessions,
- IV. The distribution of counts follows a normal Poisson distribution.

Table 5 discusses the skewed count measures obtained to understand the predictive correlation between the assigned variables.

The results indicate that there is a significant association between SRT ($\chi^2 = 30.530$, $p = .000$), WRT ($\chi^2 = .27.651$, $p = .000$), QL ($\chi^2 = .18.921$, $p = .000$), RBT ($\chi^2 = .13.2500$, $p = .000$) and gender. Both CL ($\chi^2 = .345$, $p = .842$) and BC ($\chi^2 = .3.964$, $p = .138$) are deemed to have an insignificant affiliation with the proposed language ability factor.

It can be concluded that four out of six argumentative skills are significantly predictive by language proficiency. The four skills, SRT, WRT, QL and RBT, have a p-value of .000 to qualify them to be strongly significant to have a high probability of being determined by language proficiency. Both CL and BC have a p-value of .842 and .138, respectively. As $p > .005$, these two variables are inconsequential to be determined by language proficiency. Therefore, language proficiency has the ability to predict 66.67% of the presented argumentative skills, implying the major role of language proficiency in fostering reasoned argumentation. The first null hypothesis was rejected as there is a significant relationship

between the participants' English language proficiency and reasoned argumentation skills among pre-university students in the CSCL settings.

Content Analysis

Content analysis is used to weave chunks of information presented in a raw text or discussion through a thorough inspection for meaning and relativity towards a specific topic. Hence, in this study, the discussion transcripts were coded according to the Toulmin Model of Argumentation and analysed for discourse- based behavioural pattern(s).

A total of 1107 stratagems were found after several inter- coder sessions and the frequency of every argumentative aspect is shown in Table 6 below. It can be concluded that the participants have a remarkably high tendency to provide supporting details to consolidate their main idea in the discussion with a value of 29% in total. The rank is then followed by warrant, the values and belief held by the articulator, with 19% of the total number of discussions conducted. Qualifier that provides a probable condition in a circumstance, was the least performed throughout the study (11%).

Table 5
Poisson regression analysis

Variable	N	Mean (μ)	Wald Chi-Square (X 2)	p-value
CLTotal	12	12.0833	.345	.842
SRTTotal	12	26.0000	30.530	.000
WRTTotal	12	17.7500	27.651	.000
BCTotal	12	13.1667	3.964	.138
QLTotal	12	10.0000	18.921	.000
RBTTotal	12	13.2500	15.773	.000

Table 6
Distribution of argumentative aspects during CSCL discussions

Element	Discussion					Total	%
	1	2	3	4	5		
CLAIM	34	22	41	26	22	145	13
SUPPORT	46	47	51	94	74	312	29
WARRANT	34	44	47	49	39	213	19
BACKING	31	33	32	46	16	158	14
QUALIFIER	18	33	29	26	14	120	11
REBUTTAL	21	28	28	54	28	159	14
						1107	100

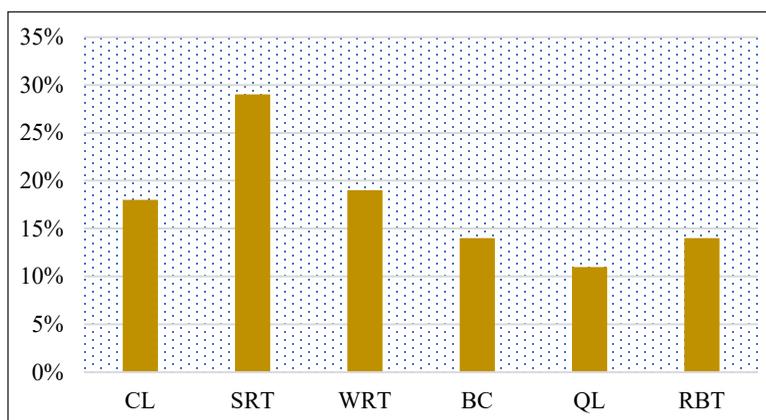


Figure 1. Distribution of argumentative aspects during CSCL discussions

According to the Toulmin Model of Argumentation, the findings have explained that the participants were all in the C category, whereby they were more concerned in building up strong arguments and refining them to be persuasive for the audience (Figure 1). The number of stratagems produced in the C category is higher in every discussion, resulting in a greater value in the grand sum from all the five CSCL discourses as shown in Table 7.

Therefore, the finding suggests that the participants were gravitating their thoughts in a constructive manner rather than confronting conflicting views to strengthen

Table 7
Group categorization based on total argumentative stratagems

Group	Argument Schema		Group Type
	Creating	Defending	
1	130	109	C
2	330	206	C
3	195	137	C

their allegation. The act of creating and enhancing an argument, holds up to 59.2% compared to challenging others' view(s) and reinforcing one's statement which constitutes a total of 40.2% of the entire data. More emphasis was placed on ensuring

that their stand was properly articulated and persuasive enough, in contrast to identifying the clashing points within the ongoing discussion. The number of stratagems differs among groups. However the composition remains higher at the tendency of creating. For example;

NT: Others will be afraid to do this kind of shameless act, towards a child.
AF: Truth is always the best policy because ermmm... even though that the police gather evidence from other people, they will take into account the past of the...suspects

The supporting statement from NT was not directly opposed by AF, but it was followed by a warrant and backing statements to strengthen her previous argument. Counter statements were given

only when one was being challenged by more than one non-supporting participant.

Sequential Analysis

In order to understand the development of reasoned argumentation in every session, the sequential analysis was conducted based on the streams of coded stratagems produced. Table 8 illustrates an example of z- scores obtained from discussion 1, on all three groups that were present. Each row indicates the initial argumentative aspect while the column represents the follow- up strategy.

Table 9 represents the summary of z-scores obtained across the five CSCL discussions. The average was tabulated accordingly into a table of significance to explain the recurrence of strategies and the development of reasoned argumentation over the study period.

Table 8
 Example of z-score for discussion 1

z	CL	SRT	WRT	BC	QL	RBT
CL	0.55	3.87	-2.10	-1.23	-1.49	-0.52
SRT	-0.85	-3.23	3.38	2.30	-0.25	-1.17
WRT	0.55	0.31	-2.10	1.91	-1.49	0.68
BC	1.90	-1.17	1.17	-1.55	-0.01	-0.32
QL	-2.09	1.42	-0.27	-1.29	0.16	2.23
RBT	-0.46	-0.68	-0.59	-0.88	3.78	-0.33

Table 9
 Summary of z- scores across five CSCL discussions

z	CL	SRT	WRT	BC	QL	RBT
CL	0.39	4.43	-2.13	-1.80	-2.07	0.00
SRT	-0.65	-4.98	4.71	2.90	0.02	-1.22
WRT	1.00	0.30	-2.93	1.96	-0.52	0.49
BC	0.77	-2.24	2.07	-1.92	1.30	0.54
QL	-0.76	1.45	-1.15	-1.55	0.47	1.27
RBT	-0.74	2.67	-1.70	-0.87	0.83	-0.65

The above scores were pooled for a sum and arranged according to the significant z- score obtained in every discussion. State transition diagrams were then constructed to illustrate the strategic flow within the weekly discussions. Table 10 ranks the significant sequences, according to the tabulated z scores that were $>1.96/ (-1.96)$, that will be used to sketch the transitional diagram.

Discussion 1 and 2 have five significant sequences involving CL, SRT, WRT, QL, and RBT. This depicts that the first two discussions had a fair balance between creating an argument and defending the argument using an additional reinforcement(s). Discussion 3 had the least with only one significant sequence involving one element from the C and D categories, CL and RBT. The number increased gradually from the 4th and 5th discussion with 2 and 3 intercepting values. The z- score however is higher on formulating skills, SRT, WRT and CL, compared to destructive statements which are RBT, QL

and BC. Comparisons were made between discussions and the developmental pattern of reasoned argumentation was interpreted in the five following Figures 2, 3, 4, 5, 6.

From the above Figures 2, 3, 4, 5, 6, there are 16 significant sequences that can be found from all the five CSCL discussions. SRT constitutes the highest number of significances with 8 correlating patterns with other skills. This indicates that almost every participant in every discussion provided a minimum of 5-7 supporting details to project their thoughts. The rank is then followed by CL, WRT, QL and RBT with 4 significant sequences each, within the tabulated discussions. BC seems to have the least number of significant sequence with a total pattern of 4 recorded. It is interesting to note that the first two discussions have a strong salient sequencing between argumentative aspects involving all six sequences provided. The rate then starts to fluctuate on the following sessions, with reciprocating sequences among skills.

Week 1 has three significant sequences that have an extremely high z- score, CL- SRT, SRT- WRT and RBT- QL, which means that the interactional pattern did not occur merely by chance. The probability of providing strongly refined arguments with several assumption- based objections can be seen at this particular week. Week 2 has a similar amount of significant sequences but within a different subset of skills which are, CL- SRT, QL- RBT and SRT- BC. This discussion has portrayed the groups to be in a mixed manner for reasoned argumentation whereby the discussion

Table 10
Overall significant sequence order

Significant Sequence	z- Score
CL- SRT	4.43
SRT- WRT	4.71
WRT- BC	1.96
BC- WRT	2.07
RBT- SRT	2.67
SRT- BC	2.9
CL-WRT	-2.13
CL- QL	-2.07
SRT-SRT	-4.98
WRT-WRT	-2.93
BC-SRT	-2.24

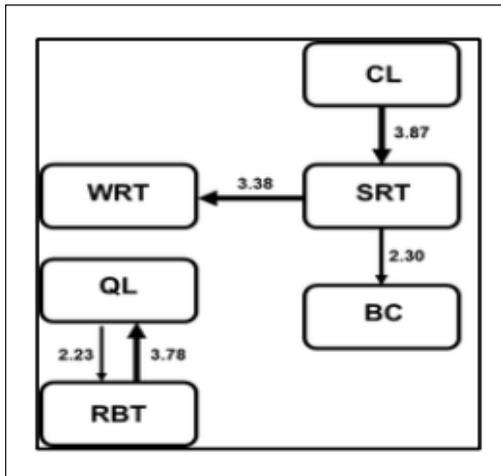


Figure 2. Discussion 1

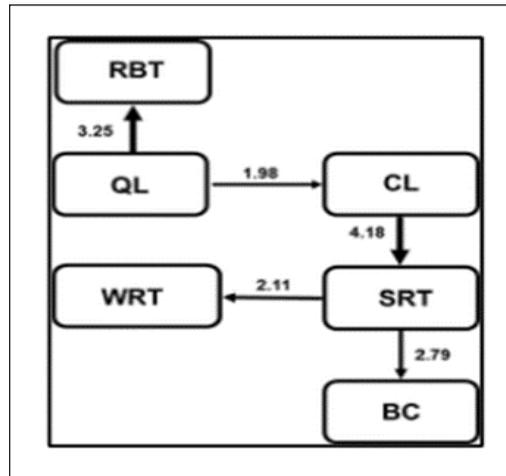


Figure 3. Discussion 2

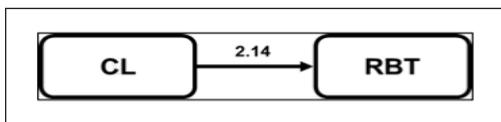


Figure 4. Discussion 3

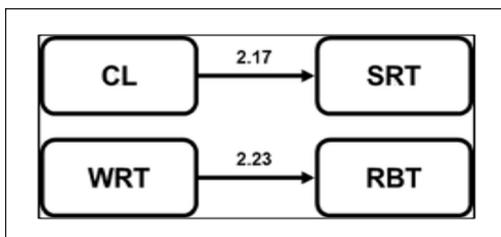


Figure 5. Discussion 4

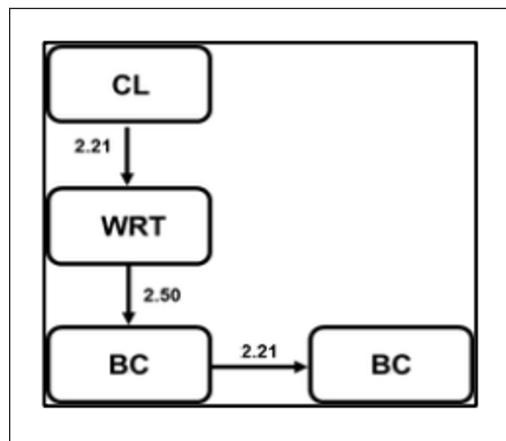


Figure 6. Discussion 5

took place in between providing supported statements followed by series of justified confrontation in the form of both questions and assumptions. Compared to other weeks, week 3 has the least significantly correlating pattern, which is only one. The paradigm shift among the participants is obvious whereby the most prominent method is opposing the main idea being put forth. The z- score explains that is moderately higher compared to any other discursive pattern's

present for the week, on average. Week 4 reflects the participants' nature to construct arguments rather than dispute viewpoints. Seventy-five percent (75%) of the recorded significant sequence are among the first three argumentative skills which have the propensity towards building statements and not disrupting. The WRT- RBT signifies that the stated values and beliefs were the commonly questioned element in the weekly discussion, the short story about conflicts

between offering help and holding a grudge. The final discussion enhanced the previous reasoned argumentation behaviour among the participants, having three significant sequences, SRT- WRT, WRT- BC, as well as BC and QL, emphasizing on a constructive discourse.

Figure 7 exemplifies the average significant sequences that were recorded throughout the study period. This provides the decision on the third hypothesis of the study by analysing the overall transitional state of the participants' reasoned argumentation. There are six significant sequences that can be derived as the final product, involving five of the aspects outlined in the coding scheme. Two sequences with the highest z- score would be CL- SRT and SRT- WRT, strongly predicts the argumentative behaviour of generating arguments. This is followed by SRT- BC and RBT- SRT, adding to the idea of constructive CSCL discussions with a reasonable number of objections and clarifications provided by the participants. Lastly, WRT- BC has the cut off z- score

of 1.96, showing that there is an enough number of validating examples given to strengthen several values being enunciated. QL was found to be insignificant to the other aspects with only one sequence and having a z- score of -2.07. The sequence was not included as the z- score is <1.96. Therefore, the second null hypothesis was rejected as there is a significant state of transition in students' reasoned argumentation strategies throughout the five-session CSCL discourse.

DISCUSSION

Objective 1: To Analyse the Level of Participants' English Proficiency prior to Participating in the CSCL Discourse

The English language proficiency of the participants was pre-determined by the instructors based on the participants' recent test scores. The composition of every group was balanced with one participant from each proficiency level (low, medium, and high). The decision of having mixed abilities in each group summed the general idea of ensuring a successful CR setting for the collaborative discourse to take place. The purpose was to understand the role of language proficiency and how it affects reasoned argumentation skills.

Objective 2: To Explore the Level of Participants' Reasoned Argumentation during a Five-session the CSCL Discourse

Based on both the descriptive and content analyses carried out, it was evident that the participants exhibited constructive argumentative skills more than half of the

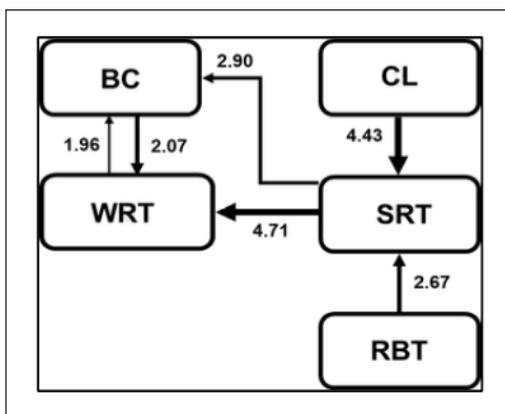


Figure 7. Final developmental pattern of reasoned argumentation across five CSCL discussions

time. Providing claim, support and warrant occupied the overall stratagem distribution by 13% ($\mu=12.0833$), 29% ($\mu=26$) and 19% ($\mu=17.75$), respectively. At this pace, the participants performed a steady tendency to be aware in structuring their statements to be convincing for the rest of the group members. All three groups were classified within the C category which entitles to a strong acknowledgement for content compared to being at variance towards external thoughts.

Objective 3: To Examine the Relationship between the Participants' English Language Proficiency and their Reasoned Argumentation Level in a Five-session CSCL Discourse

A Poisson regression analysis was carried out to scrutinize the possible argumentative skills that can be predicted by one's language proficiency. It was crystal clear that language has a remarkably high influence in predicting more than half of the discourse aspects; four out of six.

Objective 4: To Explore the Transition State of the Students' Reasoned Argumentation Strategies in a Five-session CSCL Discourse

The sequential analysis indicates the probable and recurring reasoned argumentation strategies appropriated throughout the CSCL discussions. The skills with the highest z-scores and correlated significantly are from the creating category (C) of the devised coding scheme. This confirms the previous information tabulated from the content analysis on the participants' level

of reasoned argumentation. This study has provided an explicit evidence on several practical concerns for the attention of educators, which will all benefit the learners at large.

Predicting the Role of Language Proficiency in Developing Critical Thinking Skills

Zhang and Dougherty Stahl (2011) had outlined the key requirements in ensuring a successful collaborative learning environment and language comprehension of which this was one of the listed criteria. Objectives 1 to 3 emphasised on outlining the level and predictive strength of language proficiency towards the analysed argumentative skills. It is evident that language acts is one of the prominent tools in facilitating reasoned argumentation among the participants. In this study, students with a better language acquisition managed to articulate the ideas and refute clearly in the focused group discussion while those with less proficiency struggled to properly enunciate their thoughts. This view has been validated by Paul (2004) that a good language ability is imperative in establishing a good foundation for critical thinking skills among young adult learners. The significance of embedding language improvement through communicative approaches within the education system provides an opportunity for learners to enhance their ability to assume, generate ideas and reflect on the language (Owen

et al., 2019). The developmental role of language proficiency was later addressed by Grosser and Nel (2013), of which they discovered an interdependent correlation between language mastery and application of critical thinking skills. The fact that learners or individuals mostly process their thoughts in their first language and the possible effects it could imply upon in a social interaction that requires a second language, is continuously studied by social psychologists. Jordan and Johan (2015) implied that the act of 'dismantling' language from the thought was impossible, therefore, the point of mentioning how it influences the variables are merely meaningless. This point was scientifically endorsed by Hassan Taj et al. (2017) of which their study portrays how a broad domain of language at a normal range could significantly impact a learner's cognition in terms of semantic and syntactic processing. Hence, projecting an integral argument or statement requires a competency in the language in the social event that is taking place. This is ambivalent in the quality of participation that could affect the overall reasoning process that one would like to express in a discourse.

Stakeholders, educators, policy makers and education- based industries, should start looking into the effort of integrating language-rich discussions into students' learning experiences. Familiarising the learners to speak and think in a different language enables them to elevate their awareness to think critically in any circumstances. This relates to the point clarified by Ghadi et al. (2013) that language

does not only enhance linguistic features but also activate a learner's capacity to relate and engage mentally in the current real- life issues. Therefore, there is a dire need to ensure the language proficiency of students to foster better critical thinking skills.

Reasoned Argumentation Facilitates Knowledge Sustainability

The study has explained that every group performed differently with a significant argumentation strategy in every discussion. Although the interactions were constructive in nature (CL, SRT, and WRT) they lacked verbal reinforcing argumentative techniques (BC, QL, and RBT). The participants' priority was given to agreeing to provide statements, elaborating self- generated leads and justifying their choices. Based on the findings of the content analysis, the participants tended to settle more frequently in creating a viewpoint and were less inclined to challenge other views. Such conservative reactions in a discussion can be caused by many factors, embodied within the environment of the articulator.

Maeda (2017) elucidated that self- efficacy, dealing with fear, judgement, isolation and discrimination, as among the prominent factors that affected the rate of classroom discussion. Learners tend to be anxious about the public view of him/ her when a challenging attempt is made towards a perspective. Hajar et al. (2017) had also explained the consequences of this social- acceptance phenomenon within the Social Networks Analysis (SNA) perspective.

This notion was further analysed by Uphill et al. (2014) on how such an adverse emotional state could cause an inability in decision making, increase the amount of poor learning involvement and academic dissatisfaction. The mentioned issues are a part of the argumentative skills deficiency theory, which aims to alleviate the unnecessary verbally abusive behaviour due to the lack of appropriate knowledge on the manners of delivering a disagreement upon a subject matter.

Collaborative argumentation is one of the practically suggested methods in handling an inactivity in a classroom discussion. Within this spectrum, learners will be able to propose a claim, support a side, weight arguments, refute challenging views, reflect on the rationality, and decide upon a solution/party (Jiménez-Aleixandre, 2007). Task-based learning and collaborative learning should be encouraged among young adult learners as they benefit better in an active session that provides feedback, challenges, and justifications rather than a monologue or one-way learning approach. This suggestion is supported by several previous researchers who advocate the idea of having more than just information as the key factor in determining a successful knowledge construction as well as sustainment (Weinberger, 2011). Tan and Wong (2020) had also indicated the need for learners to learn beyond the syllabus, within an ICT- integrated learning environment, in order to adapt to a futuristic learning approach.

LIMITATIONS AND RECOMMENDATIONS

The generalisation of the results is subjected to a certain population, provided that their learning environment and age group are pre-determined. The participants should possess at least a moderate level of English language mastery to be able to participate in CSCL discussions. The intensity of the discussion might differ depending on several fundamental factors related to the participants, such as age, general knowledge, and language competency. Besides, the temporality of data collected in a CSCL setting is another major concern that restricts the generalisation of the findings. As CSCL discourses take place over a period of time, a large number of episodes should be studied to refine the understanding of the effects of the setup towards reasoned argumentation.

Future researchers could broaden the participant's perspectives by studying a different age and geographical cultural groups. As this study has addressed the significant role of language in predicting argumentative skills, upcoming studies could conduct comparative assessments on the impact of different language proficiency levels upon learners' argumentation levels. This can be an added value that can consolidate language proficiency as a determining factor in nurturing higher order thinking skills. Language-rich activities, interactive speech-related competitions, and public speaking are some of the activities that can be focused on in future studies.

CONCLUSIONS

To conclude, this study has used several statistical measures to identify the relationship and developmental strategies between language proficiency and argumentation skills. The participants' argumentation level data were tabulated to be compared over the sessions and total data. The participants exhibited a higher tendency to construct their arguments and concretize the arguments with the necessary supporting details (CL, SRT, and WRT) rather than confronting a conflicting viewpoint (BC, QL, and RBT) during the CSCL discussions. It had also been found that language proficiency was a strong predictor of reasoned argumentation skills throughout the argumentative discourse. Reasoned argumentation should be fostered in the current education system that is facing the evolving VUCA world due to the Covid-19 pandemic, which demands an extremely high level of reasoning before deciding on a matter.

The responsibility of ensuring a widespread awareness should not be shouldered by the Ministry of Education and school teachers only, but also by the entire community in order to foresee and understand the advantages proposed by a simple and yet analytical approach in the education paradigm.

ACKNOWLEDGEMENT

We would like to acknowledge to the respondents who were willing to participate and provide full cooperation in this study.

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Acculturation Challenges Faced by Malaysian Muslim Students Studying Abroad

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ABSTRACT

Every year, thousands of Malaysian students are sent to study abroad by the Ministry of Education Malaysia (MOE) which causes several underestimated stress, especially those faced by the Muslims. This qualitative study aimed to explore the challenges of acculturation among Malaysian Muslim students studying abroad. The researchers adopted a phenomenological design approach to develop in-depth understanding of the topic. The six respondents in the study were former Malaysian students studying in Australia, the United States of America, South Korea, India, Jordan, and the United Kingdom. The respondents were interviewed, and the interview protocol guided the interview until the data reached saturation. The data obtained were analyzed in stages, starting with descriptive coding, topic coding, analytical coding, and themes identification. This process was done using Atlas.

ti 8 software. The main findings highlight two research themes: the challenges to expose Islamic identity and practicing the Islamic lifestyle. Findings also suggest that Malaysian Muslim students should consider improving Islamic knowledge as it reflects the impressions of other religions on Muslims as a whole. This study's findings are important for the student sponsorship and student welfare section of the university in providing an appropriate counselling program for international students dealing

ARTICLE INFO

Article history:

Received: 13 November 2020

Accepted: 11 March 2021

Published: 14 April 2021

DOI: <https://doi.org/10.47836/pjssh.29.S1.18>

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with acculturation issues. We also suggest that future research explore acculturation challenges to identify the holistic need of the multicultural counselling service.

Keywords: Abroad, acculturation, Malaysian Muslim students, multicultural, phenomenology, qualitative

INTRODUCTION

The twenty-first-century remarks indicate the rapid increase of migration worldwide. According to Higher Education Statistics of Malaysia, there are over thousands of Malaysians migrating overseas to pursue their study (Ministry of Education Malaysia, 2018). The most recent record was in 2018, which reveals 78,459 Malaysians were studying abroad during the year. As mentioned in the record, some of the students were self-funded, and some were sponsored by third parties such as government and non-government organizations. The famous countries with most students are the United Kingdom (UK), Australia, Taiwan, Egypt, China, Indonesia, the United States of America (US), Russia, India, and Japan.

Tagg (2014) reported that Malaysian students preferred to pursue their studies overseas rather than in Malaysia because they fulfilled the desire to seek distinguished professors in their field of interest. They presumed to obtain the best education to secure respectful and high paid careers in the future, primarily among those undertaking doctorate degrees. Moreover, family encouragement also supports the decision-making process for studying

abroad (Tagg, 2014). Some of the students have extended families in the host countries to help bridge the students and the new cultural environment during the adaptation phase. Such findings are similar to those of Deloitte (2008).

Tagg (2014) also provided additional evidence that studying abroad was an opportunity for students to gain a new experience of living in a different cultural environment and new knowledge from a foreign country. The widespread of Malaysian students all over the world has brought about our concern about their survival, especially among Muslims. However, in the early transmission of pandemic COVID-19, Malaysian students studying abroad have to abide by the order to remain at home in their respective countries and no urgency of coming back to Malaysia. They must continue attending lectures as per their institution of study. This situation becomes even more challenging when most of the countries had to announce the lockdown. Therefore, students could not go anywhere. In summary, the pandemic COVID-19 causes an abrupt increase in mental health problems, especially among international students (Dickerson, 2020). The problem may get worse if the students are also having acculturation issues during the pandemic. Therefore, the current research's significance is to thoroughly examine the religious challenges and issues faced by Malaysian Muslim students during the acculturation process (Ahmad et al., 2014; Salleh & Hussin, 2017).

LITERATURE REVIEW

Acculturation is defined as the product of intercultural self-adjustment (Berry, 2006; Ward et al., 2001; Masgoret & Ward, 2006). Living in a new environment at a new place requires the students to comply with the dominant culture's values and norms. Individuals must undergo the negotiation process in the new dominant culture and consider whether to retain or lose their origin culture (Berry, 1997; Falavarjani & Yeh, 2017).

The main domains of acculturation are psychological and sociocultural. Ward et al. (2001) defined psychological acculturation as the emotional response and sociocultural acculturation as the behavioural response. These responses represent the students' strategies to fit into the dominant culture (Ward et al., 2001). Berry (2006) added on the definition of psychological acculturation as the students' psychological well-being as they underwent the process. Masgoret and Ward (2006) also elaborated more on the sociocultural acculturation as the continuation of social interactions within the students and the locals.

Back in 1980, Berry (1980) introduced four types of acculturation modes. These modes represent individuals' interacting styles when they are acculturating in between the original culture and the host culture. First, the integration of cultures. The person retains his origin culture values, but still maintains good relationships with the host culture. Second, the assimilation of cultures. The person does not retain his original culture values but keeps good

relationships with the host culture. Third, the separation of cultures. A person who separates cultures tends to protect his original culture values and ignore the host culture. Lastly, marginalization of cultures, for which neither keeping good relationships with one's origin culture nor the host culture. Malaysian Muslims students may develop unique survival experiences according to how they adapt to the challenges and the responses of people in the new community.

Maintaining good physical health is one of the keys to a good acculturation process (Cramm & Nieboer, 2019). Researchers found that older Turkish immigrants could maintain a lower multi-morbidity rate when they have a higher self-management ability while living among the Dutch. It means that the immigrants experienced fewer acculturation issues, which could harm their health (Abouguendia & Noels, 2001).

Nevertheless, putting two religions together may open many doors of challenges (Alamri, 2015; Ghumman & Ryan, 2013). Even among the locals themselves, the female Muslims who wear hijab still have to endure being discriminated against in sports (Alamri, 2015) and employment hiring (Ghumman & Ryan, 2013; Ward et al., 2016). When Islam becomes a minority religion, people must overcome challenges to practise Islam peacefully. Therefore, the present study aimed to explore the challenges Muslim Malaysian students encountered when they practised Islam in the countries they were studying.

In the acculturation process, individuals involved are disposed to become vulnerable

to stress, namely acculturation stress. Berry et al. (2002) defined acculturation stress as the individuals' reaction towards life dealings, specifically in the intercultural context. It refers to mental, emotional, cognitive, and social experience (Abouguendia & Noels, 2001).

However, studies found that students were able to get well adjusted to the new culture environment when they occupied themselves with specific skills, such as the speaking-like-locals ability. Mahmud et al. (2010) also found that international students who developed local speaking ability were believed to have better access to local values and norms. With such competence, the students hold the privilege of being able to initiate conversations, communicate about concerns to lecturers and staff, and to accommodate themselves in every aspect of life abroad. Meanwhile, students who lacked the ability to speak the locals' language, hardly communicated with the locals (Mahmud et al., 2010).

Past researchers agreed that having a different religion impacted Muslim students who went to other countries to further their studies (Akram-Pall, 2016; Chen et al., 2019; Dana et al., 2019; Goforth et al., 2014; Loewenthal & Solaim, 2016; Ward et al., 2019). During the acculturation process, individuals may endure psychological and emotional challenges, causing mental health issues (Abouguendia & Noels, 2001).

Following the tragedy of September 11th in the United States of America (USA), discrimination and hate crimes against Muslims increased rapidly, especially

towards Muslim Americans (Frumin & Sakuma, 2016; Lichtblau, 2016). Muslim Americans were treated more negatively than other American ethnic groups (Lajevardi & Oskooii, 2018). Resulting from the tragedy, the researchers took an advanced effort to follow up on Muslims' social impacts, especially on Muslim Americans.

In the early of 2011, McDermott found that Muslim female medical students faced negative stereotype treatments while in the US. Most Americans had an anti-Muslims sentiment that was publicly displayed. The Muslim female students felt social isolation by their American friends because they were wearing the *hijab*. The students believe that the common stereotypes emerged due to the lack of understanding about Islam. Loewenthal and Solaim (2016) also added that Muslim women who prioritized Islam managed acculturation by integrating multiple religious values or vice versa. Otherwise, Muslim women who neglected Islam would acculturate by assimilating religions or marginalizing religions.

According to Dana et al. (2019), this issue remains to be a hot topic among Muslims in the US. They found that religious discrimination perceived among Muslim Americans has become more damaging because of the *hijab* issue. Wearing a *hijab* caused people of other religions to cast a suspicious look at Muslim women. Since the declaration of "Muslim ban" policy in the US, the discrimination upon Muslim women became worse (Tabassum & Saeed, 2019). Their findings surprisingly reveal that Muslim men get discriminated even

more than Muslim women who do not wear a *hijab*. They suggested that Muslim men portrayed that aggressive look, which alarmed the locals since the September 11th terrorist attacks (Dana et al., 2019). Therefore, the hijab-wearing issue has always been famous in connection to religious discrimination among Muslim Americans irrespective of gender.

Abouguendia and Noels (2001) stated that individuals might have to confront psychological and mental health challenges during the acculturation process. Goforth et al. (2014) investigated psychological adjustment among Muslim Arab American adolescents. They examined the effects of acculturative stress and religiosity on psychological adjustment by referring to Erikson psychosocial theory (Erikson, 1968). Researchers believe that the Arab American ethnic may develop a critical religious identity from adolescents to adulthood as opposed to the September 11th tragedy. It affects how they adopt multiple religions and cultures while shaping their original Arabic culture (Abu-Laban & Abu-Laban, 1999). Goforth et al. (2014) revealed that adolescents who acquired a stronger religious identity tended to develop a stronger Islam orientation than the host culture. Becoming close to God indicates less acculturative stress and a better psychological adjustment.

In addition to psychological and mental health issues, Akram-Pall (2016) explored acculturation challenges that might lead to depression. The respondents were among South Asian Muslim immigrants in Canada.

They reported mixed feelings of loss and fear. They admitted that self-isolation in the room was a better idea than being isolated due to hijab-wearing in the Christian crowd. They felt the loss of their religious identity. The conflict of cultures made it more complicated to protect their social identity and family tradition.

Muslim women avoided shaking hands with men (Chen et al., 2019) and that interfered with their interactions with locals. Being a Muslim was associated with the fear of being distinct from the norms (Falavarjani & Yeh, 2017). Consequently, the respondents disclosed the feeling of depression. They segregated themselves as they struggled to acculturate. Akram-Pall (2016) concluded that the respondents had a tremendous feeling of loneliness throughout the acculturation process; therefore, they were vulnerable to depression.

Recently in 2019 in Christchurch, New Zealand, there was a tragic mass shooting of Muslims worshippers, of which 51 people were killed, and 40 people were wounded. Since the tragedy, Muslims started to get attention, support, and care. Ward et al. (2019) studied the challenges Muslims in New Zealand face. The study shows that Muslims in New Zealand face major discrimination because of their religious identity as Muslims.

However, researchers found that lack of knowledge about Islam causing some of the non-Muslims to have a narrow perception about Muslims (McDermott, 2011; Ward et al., 2019). Muslims are still discriminated against in the education and employment

sectors (Ghumman & Ryan, 2013; Ward et al., 2016). Most Muslim international students are having difficulties performing five-time prayers on the university campus in non-Muslim countries (Ali & Bagheri, 2009). Students are reportedly feeling discomfort to perform ablution and pray (Chen et al., 2019).

Abdul Latiff et al. (2014) investigated issues and challenges faced by Malaysian students in Australia and the UK during their acculturating process. The researchers sought to understand how the students adapted to the new environment and managed cross-cultural problems they had encountered. One of the issues raised was religious discrimination, of which they had been forced to take off their hijabs in the examination hall. They also experienced being attacked by a group of teenagers who threw raw eggs at them in public. Salleh and Hussin (2017) also found the same discrimination issues in religion. Malaysian students in the UK encountered racism during the election time, and some of them even spat on Malaysian students because of different religious identity. All those discrimination incidents lead to emotional instability, such as upset feelings and lower self-esteem among Malaysian students.

MATERIALS AND METHODS

The qualitative research design reveals research problems involving an exploration where only a handful knows and truly understands the issues and phenomenon studied (Creswell, 2007; Johnson & Christensen, 2004). The focus is on detailed

findings and descriptions. Thus, qualitative research's objective focuses on extracting and interpreting the meaning of life events that happened to an individual (Lincoln & Denzin, 2003; Merriam, 1998).

The criteria of the qualitative approach are in alignment with that of the current study. These criteria include; i) understand the process of events and actions involved, where only students studying abroad can express, translate, and contribute meaning to the phenomenon experienced, and ii) understand the development of the adaptation process for challenging situations experienced by the respondents as Muslims in the foreign countries.

In the framework of the qualitative approaches, phenomenology is the most appropriate approach for this study. The primary purpose of using the phenomenology approach is to explore the meaning of one's life experience as described by the individual himself (Bloomberg & Volpe, 2008; Creswell, 2007; Frost 2011). The basic assumptions underlying the phenomenological design include one's perception of the world they live in and how their existence defines its meaning. It provides descriptive results, reflecting and interpreting the occurrence in the context of the individual (Creswell, 2007).

The focus is on their experiences and how conscious awareness shapes them. The conscious awareness allows the researchers to comprehend the actual reality solely based on the respondents' first-hand experiences and their understanding. Therefore, the researchers decided to adopt the phenomenological approach

within the qualitative research design as it is the most appropriate approach for the phenomenon studied. Furthermore, the Malaysian students in the present study were the experts, of which they were the ones who understand the most about what they had encountered while studying overseas.

The samples in the phenomenological approach involve those related to the issues, actions, and activities studied (Frost, 2011). Merriam (2009) stated that purposive sampling was based on the assumption that the researchers wanted to explore, determine, and get a clear perception of specific phenomena. Therefore, the samples should be selected among those whom the researcher can learn from the most. This technique can help researchers obtain rich and thick data (Ahrari et al., 2019; Aziz et al., 2020; Krauss et al., 2020; Rami et al., 2020).

This study used the purposive sampling method based on the following criteria: Experienced studying abroad with a minimum of two years study period. Six ex-students fulfilled these criteria and were willing to be the respondents of the study. Table 1 summarizes the profile of the respondents.

Getting the respondents began by advertising on social media and inviting people to participate in ongoing research. Interested respondents contacted the researcher directly. The researchers selected the respondents who studied in different countries to have a deeper understanding of the diversity of acculturation issues. In this study, the researchers did not make gender a limitation for one to be the study's respondent. However, the researchers considered other factors based on the information acquired from the interviews with the interested respondents, such as the country and the duration of studying abroad. These factors influence how Malaysian students deal with acculturation (Abdul Latiff et al., 2014; Goforth et al., 2014).

The researchers used the interview protocol as a guideline throughout the interview process and included probe questions during the interviews to strengthen their understanding of the phenomenon being investigated (Frost, 2011; McLeod, 2001; Seidman, 2006). The interviews were conducted at each respondent's preferred setting in Malaysia. Two of them chose their offices, three chose to be interviewed at the cafes, and one at the park. The decision

Table 1
Respondents profile

Respondents	Country of Study	Duration (years)	Year Graduated
PK1	Australia	3.5	2018
PK2	South Korea	4	2018
PK3	United States of America	3	2019
PK4	India	4	2019
PK5	United Kingdom	2.5	2018
PK6	Jordan	4	2019

making on choosing the interview settings depended on the availability of time and transportation.

Despite giving the freedom to choose preferable interview settings, the researchers considered both factors before accessing the research respondents. The researchers made sure that the respondents felt comfortable enough to cooperate during the whole data collection process. All interview sessions were set to no time limit. Each interview took about 45 minutes to an hour with the frequency of two to three times, depending on the readiness of the respondents to share their experiences and the consideration of data saturation. The data saturation was considered to have occurred when the respondents repeated the same input in the interviews.

The research data obtained from the audiotaped semi-structured interviews were analyzed. The process of data analysis began by transcribing the interviews with the respondents in the verbatim form. To ensure data credibility, the verbatim transcripts were given back to the respondents to review the content of the interviews in the sessions that were conducted. After the respondents agreed with the content of the interview, the researchers began the first level of data analysis where all of the data were read repeatedly to get an overview of the phenomenon that occurred. This process is crucial as a step for data coding to form the emergent theme(s). In line with this purpose, the researchers used the Atlas.ti 8 software to analyze the data. This software helped the researchers get the theme in

stages; descriptive coding, topic coding, analytical coding, and themes.

The descriptive coding process required the researcher to code each item that was perceived to provide the researcher with the background as well as the experience of the respondents. Topic coding is a process of categorizing the code that has almost the same topic. The researchers focused on the code that gave categories, reflecting on evolving ideas that had almost the same meaning. The next step is analytical coding, which is to combine and categorize the codes that are created at the previous stage. From a data set, the researchers needed to shrink the data sets and developed data classification systems. The data from the same topic were categorized together, leading to the final process, which was to create the theme. The data from the same category were combined and formed a theme. For this study, the final results of the data analysis formed two emergent themes.

RESULTS AND DISCUSSIONS

The study found two themes consisting of all the challenges experienced by the Muslim Malaysians for being Muslims, while studying overseas, which was in Australia (PK1), South Korea (PK2), United States of America (PK3), India (PK4), United Kingdom (PK5), and Jordan (PK6). The themes are challenges to expose Islamic identity and to practice Islamic value. More elaborations and discussions from each respondents' personal experiences are provided in the sections that follow.

To Expose Islamic Identity

The respondents described that one of the drawbacks of being a Muslim while studying abroad was the strength to carry their religious identity fearlessly, especially when being alone. PK1 stated that some Muslim Malaysians were poorly treated in Australia because the doers were close-minded, which led to negative perceptions about Muslims. The doers probably lacked in maturity and knowledge. Therefore, they were still unable to accept a multi-religion society at their place fully. Nonetheless, PK1 compared the attitude with those in the university. People in the university were very understanding, and very few would discriminate against others. PK1 believed that the level of education and age determine the locals' acceptance of Muslims.

On the other hand, PK3 defined the hardships to maintain religious identity in the United States of America (US) that arose when the Muslim Malaysians faced the minority people who still exhibit their Islamophobia attitude. She described the Islamophobic people as the minority because they were among the homeless, from a very low education background, and drug addicts. In different circumstances, people in the university inhibited their racism. PK3 believed that they read about Islam and had a wider perspective on Muslims. She shared her friend's experience being attacked at the bus stop and was saved by a white American lady.

Our results for PK1 and PK3 are also consistent with past research. According to Ward et al. (2019), individuals with a lower

educational background are associated with being close-minded. This group of people exhibited racism towards the Muslims because they had a little exposure to the environment with cultural variations (Abdul Latiff et al., 2014; McDermott, 2011). Both PK1 and PK3 in the present study believed that people in the university were highly tolerant compared to people outside the university with lower educational levels, such as teenagers, by acquiring deeper knowledge and understanding about Muslims. Their typical mindset weakened their negative stereotypes. Hence, current researchers suggest that the religious discrimination that occurred to the respondents in the present study was determined by the type of mindset the society holds about Muslims.

PK2, who studied in South Korea, reported being looked down by the local classmates. According to her, most Koreans would hardly initiate a conversation with international students who came from non-English speaking countries. This time, PK2 said she felt discriminated against due to having a different religion and different nationality. This mentality they had on Muslim Malaysians was shown not only in the classrooms but also in the neighbourhood. This result aligns with that of past research, of which discrimination happens not only in the social aspect, but also in education (Ghumman & Ryan, 2013; Ward et al., 2016). Therefore, current researchers suggest that the religious discrimination that occurred to the respondents in this study were determined by the type of mindset the

society holds about Muslims and stereotypes attached to a nationality.

(PK1, Australia) *“But as far as I’ve heard, some of my female friends used to get disturbed by the locals, especially from youngsters and teenagers. They threw raw eggs, pizza boxes, and sometimes they got followed by drunk men to home. Cases are very rare to happen, but this kind of treatment still exists.”*

(PK3, the US) *“... but then one of my friends got attacked at the bus stop. They said things like ‘Go home! Go home! This is not your place! You do not stay here!’, and saying stuff like we hide bombs in our hijabs and so on...”*

(PK2, South Korea) *“There was one time when I was the only Muslim in a class. And I was the only Malaysian. I know I must make friends with my classmates, so I always initiate conversation. Koreans do not start first. We must speak before them. Or else they would not talk to us. They always look down on us, who came from the non-English speaking country.”*

Contrarily, Malaysian Muslim students in Jordan were blessed with the opportunity to be surrounded by beautiful Islamic practices because of the similarity in their religious background, which has strengthened their religious orientation. This is consistent with the findings of

Goforth et al. (2014), who found that Muslims with a strong orientation to Islam faced little stress during acculturation. However, PK6 mentioned the challenges that became their concern was their safety in the neighbourhood. She described the challenges encountered in terms of keeping themselves safe.

PK6 explained briefly about strong family support (*assobiyah*) among the Jordanian people. They protect their families very strictly, and when they fight, they shoot guns, put on fires, and many more. The problem was, they channelled their extreme behaviours to Muslim Malaysian students. According to PK6, Malaysians are weak, soft, and kind. The Jordanian people like Malaysians a lot. Sometimes, they took advantage of the students and caused chaos. This result is consistent with the findings of a study conducted by Salleh and Hussin (2017). The respondents in both the previous and current research faced similar fear and worried about safety. Their safety was threatened during their living in Jordan.

(PK6, Jordan) *“...when they can’t annoy each other’s Arabic families, they would do it to us, the outsiders... there were many times they intruded into our houses... some of my friends even got sexually harassed...”*

To Practice Islamic Value

The respondents described the challenges to practice Islamic routines as they do in Malaysia during their staying abroad

because of the situations that restricted them. PK2 reported that she felt emotionally discriminated against when her friends held some night parties, and she could not join them. PK2 defined losing the opportunity to celebrate the precious moment with her close friends just because she is a Muslim. She believes that she felt offended every time they went to parties without her but was always alert that she has a religious identity to be protected.

PK2 then expressed gratitude because although she is a Muslim, her friends still treated her well. They would offer her another gathering to replace those she could not attend. They accepted her nicely in other aspects too. The decision made to withdraw from joining every gathering was a tough decision. Choosing to have faith, PK2 maintained her stand. This finding is supported by Loewenthal and Solaim (2016), where Muslim women maintain wearing hijab because they strongly believe in God's commands.

PK3 added that it was never easy to keep on Islamic faith identity the whole time and surrounded by Islamophobic people. To strengthen the faith, Muslims must fulfil the five times prayers. Muslims even had tough times just to find a prayer space (Ali & Bagheri, 2009; Chen et al., 2019). In the United Kingdom (UK), PK5 defined the very common tough times of being a Muslim Malaysian in the UK was when they wanted to perform prayers. She said that was the main concern they must bear during living in a non-Muslim country. Prayer rooms were very limited. They must

find strategies on how to take ablution, what suitable clothes to wear, and where to perform prayers.

Regardless of the unsupportive environment and facilities to perform Muslims' obligations, the respondents never stopped their obedience to God, a decision that is parallel to past findings (Dana et al., 2019; Loewenthal & Solaim, 2016). Thus, it can be concluded that to retain one's self-identity and religious identity is very challenging for Muslim women who live in non-Muslim countries. Based on this evidence, the researchers suggest that discriminations are still happening because the discriminators do not accept Muslims as part of their society. People will have a better understanding if they know what they are against. More exposure to Islamic practice and values could build more understanding of Islam. Hence, it lessens the negative stereotypes.

(PK2, South Korea) *"I have this circle of Korean friends, a very small one. Every time a new semester started; we held a gathering to welcome everyone. But the problem is they much prefer to do it in a pub or night club. They drank, ate pork and all. So even though I am one of the members of that circle, I have to decline to join them and just stay in my room..."*

(PK5, the UK) *"Some big malls provide prayer rooms. Small malls with no prayer rooms at all. Even at the college, there was one room*

provided for praying. But the thing is we need to share with both genders. No curtains in between or whatsoever only one space in a room..."

In India, PK4 defined challenges as conflicts faced during the festive season. As we know, Indians are mostly Hindus. They value animals, such as cows as something meaningful like a god. PK4 raised the conflicts they must face at every Eid Ul Adha celebration season. She also mentioned challenges among the Muslims in India and Malaysia. These two countries hold on to different *madhabs*: *Madhab* Hanafi for Muslim Indians and *madhab* Syafie for Muslim Malaysians. Due to the clash views on *madhabs*, the Muslim Malaysians had to follow their practices. They were prohibited from eating stingrays. In addition, as women, they were not allowed to visit the mosque and were discriminated against for not wearing a niqab.

Conflict of cultures often creates confusion and dilemma among international students, and when this occurs, they have to decide on the acculturation strategies that suit them best. This decision is endless because the decision to adapt to cultures can be an ongoing decision. Acculturation challenges that are not countered carefully might cause one to end up with mental health problems, such as depression (Akram-Pall, 2016). The Muslim Malaysians in India were challenged because of the different *madhabs*.

PK4 stated that the Muslim Indians were hardly tolerable. Some of their practices

were not acceptable, but they insisted the Muslim Malaysians follow their way of Islamic practice. Their attitude was rigid, and PK4 expressed distressed feelings that Muslim Malaysians could barely practice the Syafie *madhab* freely. Since the psychological impact was acute on our respondents, it interfered with their social interactions with the people in the community. This finding corroborates with that of previous research (Chen et al., 2019).

(PK4, India) "Every year we had our Raya Haji celebration, so we slaughtered cows. Among Hindu believers in India, cows mean god. So, every time we celebrated Raya Haji, there were conflicts between us, the Muslims and Hinduisms."

Overall, our respondents did not suffer any mental health problems during the acculturation process because they had resided in the countries for a long period, which condition lessened the acculturative stress (Akhtar & Kroner-Herwig, 2015). They managed to adapt to the host cultures by integrating both the Malaysian culture and their host culture. Our results are in tandem with the result of previous studies that international students who balance their original religious identity and their relationships with the people from the new culture will be less likely to be bothered by social interaction issues (Chen et al., 2019).

Therefore, they did not encounter provocative situations, which controlled their psychological and mental health stability (Akram-Pall, 2016). The current

study suggests that our respondents were getting sufficient support and guidance from other Malaysians (Pazil, 2019). PK1 and PK3 who had studied in Australia and the US respectively reported they have never experienced any personal religious confrontations. Even though they were aware of such cases, they did not allow it to affect them psychologically.

Besides, all our respondents stated that there were strong Malaysian communities in each country to the extent that they regarded each other as family. The family-like intimacy among them was due to the sharing of the same spaces, experiences, and familiarities in living abroad (Alazzi & Al-Jarrah, 2016). For example, PK2 had a small circle of Korean friends and a big group of friends among Malaysians. PK3 said there were so many Malaysian seniors at her place.

The number of Malaysians who became permanent residents of the US is also quite proportionate to the number of Malaysian newcomers. Meanwhile, in the UK and Jordan, PK5 and PK6 lived in a smaller community of Malaysians. They bonded very quickly, and everyone's absence was easily noticeable. The seniors assisted most of PK6's settlement during the early years in Jordan. Therefore, these arguments explain the reason for having good mental health well-being during the acculturation process is due to the surrounding with supportive people.

Even though the current research findings enclose exclusive experiences from various countries, it still has some

limitations to be considered. Firstly, the nature of the data collected provides only a brief overview of the experiences about a particular time in the past. Future studies could benefit from exploring the actual experiences of students who are still studying abroad. Furthermore, it may be useful to select Malaysian Muslim students from countries with the smallest and largest Muslims community to understand a clearer acculturation pattern.

Secondly, the interviews were conducted in the English language, which might lead to different issues for different students. Hence, future research should consider using the language that the respondents are comfortable with to avoid factors, such as language issues that might affect the interpretation of the research findings. Lastly, despite the current researchers providing deeper qualitative insights into the phenomenon studied, future research may consider analyzing the topic quantitatively for a more meaningful acculturating trend.

The main implication of this study is that the findings will bring impact to international Muslim students and university campuses. First, the findings raise more awareness about acculturative stress among students who intend to further their study abroad. The existing international students will also begin to see professionals, such as counsellors and advisors, to ask for help. Muslim international students could benefit from those acculturation challenges to improve their Islamic knowledge for mental and psychological preparation. The importance of strengthening one's

confidence about their own religious identity could affect their response towards the stigma they may face in their future endeavours.

Next, the current findings raise awareness among administrators at universities and scholarship bodies in need to provide various supports for international students. Malaysian students seldom seek counselling or psychological help when encountering problems (Salleh & Hussin, 2017). They are cautious about disclosing personal problems to strangers. Thus, they would turn to friends instead. Stress during acculturation among international students could be scaled down. Universities could organize culturally sensitive programmes to reach out to international students who might need help.

CONCLUSIONS

The transmission of COVID-19 pandemic still has not found its definite cure. Despite causing many unpleasant effects, there are still international students who portray high levels of resilience and adaptability. It is because they managed to go through the acculturation process from an early stage. Since the pandemic can have adverse consequences for international students' mental health, it has been recommended that universities continue to provide evidence-based online counselling services. Most campuses have risen to this challenge by moving their counselling services online and providing free consultations by email, phone, or video calls. Reaching out to

international students can help eliminate some of the stigmas they may feel about accessing their issues.

Counsellors should practice having flexible and open-minded perspectives, as well as engaging in self-care and self-compassion. These components would enable counsellors to help students forming groups that can help each other. Counsellors should be also aware of the unique context for each international student and be curious about their experience. International students also are encouraged to take an active role in managing their mental health conditions by reaching out to their support systems, whether on-campus or off-campus. Receiving or providing support for others can be helpful. If things start to get overwhelming, they should seek help from the counselling centres or other helpful professionals.

In conclusion, the findings from the present study could benefit student service organizations and student affairs at universities. Firstly, universities should understand the requirements of acculturation and its process. This understanding could help to reduce adjustment problems raised among international students by focusing on the policies on the needs of international students. Secondly, universities should take initiatives to address social interactions between international students and local students by providing opportunities through organized events. This alternative is to improve self-management and self-organization skills through the platforms provided during their long stay.

Thirdly, universities should also have the awareness in encouraging international students to try a different hobby or interest and in motivating them to widen their circle of friends, such as through sports in order to reduce the feeling of loneliness. Lastly, about rebalancing the relationships of existing social contacts and the new ones, counsellors in universities should take this opportunity to help international students plan their strategies and coping skills for future endeavours.

ACKNOWLEDGEMENT

Personally, as correspondence author, I wish to thank Miss Siti Nor Aishah Akhwan, Prof Dr Zuria Mahmud, Assoc Prof Dr Salleh Amat, Assoc Prof Dr Abu Yazid Abu Bakar, Dr Mohd Izwan Mahmud and Dr Ku Suhaila from Centre of Diversity and Education, Faculty of Education, Universiti Kebangsaan Malaysia for their guidance and contributions in this article.

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Socio-Cultural Barriers to Youth Voice in Nigerian School-Based Management Committees: A Multi-Case Analysis

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ABSTRACT

This study explores the challenges of implementing youth voice in school-based management committees (SBMC) in Nigeria. SBMC are a form of youth-adult partnership that involve communities in the management of local primary schools. The program aims to provide community members, including vulnerable groups such as young people who traditionally lack a voice in community leadership structures, opportunities to partake in school governance. The current study used a qualitative case study approach by interviewing 19 committee members from two SBMCs in Niger State. Thematic analysis from interviews revealed that differential treatment of people of different ages, traditional power structures, the lack of a participatory culture in decision-making, and conventional role divisions impeded the practice of youth voice in the early stages of the SBMCs. The findings provide important insight from an understudied cultural setting on the need to consider sociocultural barriers to youth voice in community-based initiatives.

Keywords: Nigeria, organizational decision-making, school-based commissions of leadership, youth voice, youth-adult partnership

ARTICLE INFO

Article history:

Received: 13 November 2020

Accepted: 11 March 2021

Published: 14 April 2021

DOI: <https://doi.org/10.47836/pjssh.29.S1.19>

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INTRODUCTION

The focus of youth programs has shifted in recent years to a greater emphasis on youth inclusion in decision-making processes, a key aspect of positive youth development (Cahill & Dadvand, 2018; Zaremohzzabieh et al., 2016). This is in response to the view that ascribes young people as resources to individual,

organizational and community development through which human, organizational, and community growth is promoted (Bruna et al., 2020; Li & Shek, 2020; The Forum for Youth Investment, 2001). In line with this approach, government agencies and non-governmental organizations are now including aspects of youth governance as an essential part of their operations (Zeldin, 2004). Youth working in collaboration with adults - otherwise known as youth-adult partnership (Y-AP) - gives youth and adults the opportunity to make important decisions to bring about change in their organizations and communities (Zeldin et al., 2011; To et al., 2020).

In many countries, however, there remains a negative perception about young people's ability to be meaningful partners in organizational decision-making. As such, youth are consistently portrayed by adult-led institutions as disengaged and deficient in public decision-making capabilities, thus relegating them to being beneficiaries of services rather than allies (Checkoway, 2006). Studies have shown that adults are often not keen to participate together with youth in governance because of adults' previous experiences (Tarifa, 2006). Adults tend to resort to authoritarian roles when dealing with youth, often mirroring how they were treated when they were adolescents (Zeldin, 2004). As a result, young people remain segregated from adults and are kept ignorant of many important issues that often directly affect young people's lives (Krauss et al., 2014; Winkler, 2013).

Much of recent history is colored by youth-adult community relationships that stifle young people's voices and confine them to institutions that force them to depend on adults (Baker, 1999). There are indications, however, that this is changing. In the United States, for instance, several recent studies (e.g., Collura et al., 2019; Zeldin et al., 2007; Yu et al., 2020) have reported that more youth are being involved in important decisions in schools, youth and community organizations. In several countries, politics is used as a means through which youth are involved in policy decision-making; youth parliaments provide members with the opportunity to pursue politics as a pathway to affect change on behalf of their constituents (Fuks & Casalecchi, 2012; Patrikios & Shephard, 2014).

In line with these trends, scholars are beginning to devote greater attention to the generation of theory related to youth participation and its role in healthy development and thriving (Cahill & Dadvand, 2018; Hart, 2008; Li & Julian, 2012). However, there is a dearth of empirical studies focusing on the cultural differences in young people's participation as nearly all the available studies have been carried out in Western sociocultural settings (Krauss et al., 2014). Since different cultures define youth participation and involvement quite differently (Fletcher, 2006), especially in public spheres of influence, Hart (2008) and others had advocated for research with a cultural bias, particularly from Africa and Asia so as "to correct the normalizing

and universalizing tendencies” of current scholarly work in this area. Against this backdrop, this study explored the cultural challenges of the practice of youth voice in Nigerian School-based Management Committees (SBMCs).

Youth Voice

Youth voice is often defined as the views, thoughts, participation, and leadership of young people in higher institutions, colleges, and governments (Havlicek et al., 2016). Youth voice often goes by related terms including “youth interaction,” “youth intervention,” “youth participation,” “youth decision-making,” “youth governance,” “active citizenship,” and “youth leadership” (Mitra et al., 2013). Youth voice refers to a mechanism that offers young people opportunities to share their thoughts, make contributions, and ensure that they are regarded as valued partners in the planning and executing of programs and activities in which they are involved (Maynard, 2008). Some scholars define ‘youth voice’ as a role for young people (Mitra, 2008; Mitra et al., 2013), while others conceptualize it as a tool for building organizational capability (Zellerbach Family Foundation, 2011) or an aspect of fruitful knowledge (Fredericks et al., 2001).

Youth voice also involves programs in school environments that encourage adults to help young people to improve policies and pedagogical practices (Mitra et al., 2013). Research indicates that youth, organizations, and neighborhoods reap many benefits when young people influence

the decision-making process (Caringi et al., 2013). In schools, Mack (2012) correlated youth voice with students shaping choices about what they learnt and how they learnt. Young people gain significant experience and learning through their participation in intergenerational relationships, which have been shown to benefit both organizations and the community (Tarifa, 2006).

Challenges to Youth Voice in Decision-Making

Young people have always struggled for their voice to be heard and acted upon (Kellett, 2011). This is because of a number of structures, behaviors, and practices that create power imbalances between youth and adults, causing young people to feel unsafe to freely voice their opinions and engage in meaningful decision-making (Kirby et al., 2003). Recent studies have begun to explore factors that pose a challenge to youth voice in decision-making. Preference towards adults’ views resulting in discrimination against youth involvement in decision-making is a result of cultural, structural and attitudinal factors (Collins et al., 2016; D’Agostino & Visser, 2010; Lekies et al., 2009). In Nigeria, one study investigating the lack of youth participation in politics found that adult domination and subsequent discrimination against youth is a result of both attitudinal and structural forces. Adults often feel threatened by youth inclusion in decision-making. As a result, structures are established in such a way that do not accommodate youth in the decision-making process (British Council, 2010). Mokwena

(2006) identified ideological factors as also responsible for the suppression of youth voice, including the basic belief that young people could not be equal partners with adults in organizations due to their age.

Culture describes a specific community's beliefs, values, habits, norms, visions, systems, and symbols (Peretomode, 2012). The culture of homes, schools, organizations and government in many societies often acts as a barrier to youth voice. Golombek and Little (2002) affirmed that youth voice became challenging when youth worked with adults in organizations that were characterized by unsupportive cultural practices such as members "operating within an autocratic or traditional style of leadership" that did not accommodate or cherish democratic principles. The current study focuses on similar cultural barriers that act as a barrier to youth voice in Nigerian SBMCs.

School-Based Management (SBM)

School-based management is the most common form of educational decentralization practiced around the world (Bandur, 2012; Drury, 1999). It is a management structure created to manage people, materials and other resources at the school level (UNICEF/FME, 2012). The overall aim of SBM is to decentralize school governance by empowering local communities to develop school management efficiency and enhance students' academic progress (Triwiyanto & Juharyanto, 2017). The program was introduced in the 1980s to address the failure of centralized public-

school administration by bringing together stakeholders such as school personnel, parents, and other members of the host community into the administration of the school, so as to make it more accountable and flexible in meeting local needs (Shatkin & Gershberg, 2007). The program is also referred as site-based decision-making, site-based management, autonomous schools, shared decision-making, self-managing schools, and school-based decision-making (Bandur, 2012; Parker & Raihani, 2011). Countries such as Indonesia, Australia, El Salvador, Hong Kong, New Zealand, Israel, Kenya, Nigeria, and Brazil have used SBM as a prominent feature of public-school management (Santibañez et al., 2014).

SBM has been a popular strategy in line with the broader policy movement towards decentralisation in public school management introduced in many developing countries over the past 30 years. Advocates contend that SBM implementation has empowered school stakeholders such as parents, teachers and other community members through active decision-making, which has led to increased participation and ownership of schools, and greater student achievement (Bandur, 2012). However, while evidence demonstrating the positive effects of SBM on school management and learning outcomes exists (Duflo et al., 2007; Jelenic et al., 2019), results are mixed (Yamada, 2014). Furthermore, the extent of community participation is contested. Several studies have mentioned a variety of barriers to the active involvement of community members in SBM including lack

of role clarity, funding challenges, power struggle between members, and inadequate training of members (Bandur, 2012; Barnett, 2012; Yamada, 2014). In their study of SBM in Indonesia, Parker and Raihani (2011) cited cultural resistance to change as a major hinderance to the effective operation of SBM.

Research Context

Since the launch of the National Youth Policy in 1981, the Nigerian government has worked to improve the quality of education and learning outcomes. Despite the government's attempts to provide high quality education to school students at the level of basic education, the conditions of the schools have deteriorated and student achievement has declined (Bandur, 2012). As a result, the Nigerian Government has started to reform the management of education through the institution of SBMCs. In Nigeria, SBMCs provide training for committee members, introduce policies to enhance the quality of primary schools, and engage in ongoing assessment of the challenges facing the successful functioning of SBMCs (Peretomode, 2012). However, critics contend that too many SBMCs have not provided the youth/student members authentic opportunities for voice in the committees' decision-making processes (Bandur, 2012).

The implementation of SBM in Nigeria started with a policy guideline issued by the National Council on Education (NCE) that the program should serve as the main channel through which community

members, including vulnerable groups such as young people and women, can partake in school governance and support school services (UNICEF/FME, 2012; Kano State Ministry of Education, 2012; Calder, 2015). To date, researchers have mostly focused on implementation strategies and effectiveness of the program in improving student performance (Akinola, 2009; Ayeni & Ibukun, 2013; UNICEF/FME, 2012). Calder (2015) observed that initially, young people's inclusion in SBMCs in Nigeria was "not accepted" and involvement of women was "highly constrained," specifically in the country's northern states. However, the researcher provided few details around equity in the process of SBMC implementation.

Calder (2015) pointed out that the participation of young people in the SBMCs in Nigeria was not readily embraced due to age-related power-distance, attributed to Nigerian culture, which was largely collective in nature. Moreover, despite a high level of awareness of their rights within the country and the SBMCs in particular, many Nigerian students still lack opportunities to take part in the SBMC decision-making process. This has led to many students feeling alienated and increasingly frustrated with their experiences (British Council, 2010). To begin to map a way forward for the successful implementation of Nigerian SBMCs in relation to their core objectives of community participation, there is a need to explore the barriers to youth voice in the context of the decision-making process of Nigerian SBMCs.

METHODS

While research interest in youth voice has increased, the body of literature in this field is still relatively small. Thus, we tried to understand barriers to youth voice through an in-depth analysis of young people's experiences, rather than proving or refuting predetermined hypotheses (Ahrari et al., 2019; Krauss et al., 2020). Thus, a qualitative approach was considered more suitable for providing direct access to students' and adults' subjective experiences (Taylor et al., 2015).

Participants and Procedures

To gain a holistic perspective of the study context and research questions, the research team interviewed young people and adults from two SBMCs, which were chosen from hundreds of SBMCs throughout Nigeria. The chosen SBMCs served public schools located in the state of Niger. The two Committees were selected based on their record of successful implementation. The two SBM committees were formed in 2009 and were considered two of the few 'working' SBM committees in the world (Okojie, 2011). Young people and adults from the two SBMCs were invited using purposeful sampling, and interviews were performed at their respective schools. First, school administrators classified possible young people and adults, and snowball sampling was used to find additional sample participants. Semi-structured, in-depth face-to-face interviews were conducted with 19 committee members, including youth and adult members (Table 1).

For ensuring anonymity of participants, the study used pseudonyms in the reporting of the findings. The other requirements for choosing study participants were the age of participants, SBMC membership, and length of involvement in the SBMC. Participants had to have been on the committee for at least two years. Participants who joined the SBMCs immediately after their establishment were given priority since they were more acquainted with the research questions of interest. However, members who joined the committees later were also included. Data were collected using semi-structured interviews and analysis was carried out using an inductive approach. Participants were told before each interview that their participation in the research was voluntary and that they could withdraw from the study at any time. Each interview lasted for approximately one hour.

Interviews and observations were used to gather the data, with the primary method being in-depth personal interviews. Twenty-nine interviews were conducted in total. Participants were allowed to share their personal experience in the committees openly. Using thematic analysis, the data were analyzed manually. The first author read the transcripts line-by-line after the interviews were performed, following an inductive approach to explain the participants' perspectives and develop themes (Gratton & Jones, 2018). Constant comparative approach was used to compare and refine the evolving trends regarding the participants' variant experiences (Ritchie et al., 2014).

Table 1
Demographic profile of participants

No.	Pseudonym	Gender	Age	Duration	Designation	Responsibility
1	Maku	Male	14	3 Months	Head	Partner
2	Aiken	Male	14	2 Months	Head	Partner
3	Aisha	Female	13	3 Months	Head	Partner
4	Sanusi	Male	18	4 Years	Alumni	Partner
5	Halima	Female	17	3 Years	Alumni	Partner
6	Rahman	Male	17	3 Years	Alumni	Partner
7	Ibrahim	Male	16	2 Years	Alumni	Partner
8	Isah	Male	24	4 Years	Teachers	Partner
9	Abubakar	Male	23	2 Years	Artist	Partner
10	Ali	Male	25	2 Years	Philanthropist	Partner
11	Mika	Male	25	3 Years	Youth Leader	Public relations officer
12	Yunusa	Male	25	5 Years	Youth Leader	F/Secretary
13	Jummai	Female	40	5 Years	Women Leader	Treasurer
14	Yusuf	Male	52	5 Years	Community Leader	Chairman
15	Aduke	Female	42	2 Years	Headmaster	Secretary
16	Musa	Male	45	5 Years	Teacher	Partner
17	Makada	Male	44	6 Years	Headteacher	Secretary
18	Kenneth	Male	62	3 Years	Parents-Teachers Association Chairman	Partner
19	Jagaba	M	67	5 Years	Community Leader	Chairman

Data Analysis

Data analysis was carried out first through transcribing the audio recordings of participants' interviews, which were then imported into NVIVO (version 10) for management and analysis. This was followed by a series of text search and frequency word queries so as to get a sense of the data to support the coding process. Coding of each of the participants' interviews was then carried out, followed by regrouping and category development. References were made to field notes and documents analyzed during coding and categorizing of the data. Next, a series of matrix coding queries were conducted so as

to explore the intersection of categories and their attributes. This led to the discovery of the similarities and differences in how youth and adults view cultural barriers to youth voice. Finally, some of the categories were renamed and others combined to arrive at overarching themes.

RESULTS

Both youth and adult participants were asked about their experiences with the power gaps between youth and adult members at the start of the SBMCs. Data analysis identified four main themes that captured the cultural obstacles to the study participants' youth voice experiences. These themes

Table 2
Summary of themes

No.	Theme	Sub-themes
1	Differential treatment of people of different ages	<ul style="list-style-type: none"> - Traditional relationship - Difficulties in opposing adults' views - Imbalance of power
2	Traditional power structures	<ul style="list-style-type: none"> - Sacred traditional institutions - Unchallenging traditional leaders - Rigid decisions
3	Lack of participatory culture in decision-making	<ul style="list-style-type: none"> - Hesitation of expression - Trust adult decisions - Discourage active participation - Difficulty accepting youth decisions - Not valuing youth contributions
4	Conventional role divisions	<ul style="list-style-type: none"> - Distinct roles regarding decision-making - Perceived different responsibilities

were classified through data analysis as: differential treatment of people of different ages, traditional power structures, the lack of a participatory culture in decision-making, and conventional role divisions. Below, each of the four themes is presented along with its corresponding sub-themes.

Differential Treatment of People of Different Ages

Among the members of the two groups, age was a key interaction factor. In Nigerian society, young people afford older adults much respect. Early on in the Committees, this conventional bond between youth and adults played an essential role in how decisions were made. Early on, adult members expected the younger members to go along with the adults, as the latter realized that they would not be questioned. On the other hand, the youth found it impossible to challenge the adults' views, as it would be considered arrogant and disrespectful to challenge the adults. Respect does not apply

to views in this sense, but only because of the age of the person him- or herself. This reverence contributed to suppressing the youth's voice and greatly affected the balance of power in the two committees' early stages.

Sanusi, a young member of the Gunu committee (a new member of only three months at the time of data collection), said he respected all the adult committee members, especially the chairman of the committee. He said, "Well, they are older than me, and they know the council very well, too, as chairperson and assistant." This made it hard for Sanusi to express opposing views against his adult associates. He added,

I have not been able to contest the judgment of adults like the director. I love them, too. Some of them are old enough to be my father, and I don't think I should question what my father says about his age.

Likewise, the Gunu committee's Magaji also suggested that age was a noticeable factor that increased the committees' power inequality. He said:

Since the adults were older, we young people gave the adults a chance to be in charge and manage the way things were handled in the committee as a mark of admiration. We did not speak until we were asked to talk, for example, and we also required them to speak first before we spoke.

Adult participants also confirmed that age difference led to the power imbalance that restricted youth to freely express their voice on the committees. Musa (Gwam committee) said:

You know, as people of northern Nigeria, we have respect for elders . . . youth may have their uncles, aunts, and brothers as committee members and that respect for them is there. Because of that, they may be feeling somehow to disagree with the opinion of the adult members as that may be like disrespecting the adults.

Jummai also said that:

From childhood, we learn to respect people based on their age. In my family, we learn to respect our grandparents' decision, and even my parents obeying their decisions. I think age is a serious factor

to consider. Even after we leave our family and want to have an independent life, we ask the opinion of elders from our family.

Traditional Power Structures

In Nigeria, the old-style organization is deemed holy, and so is the typical king, the institution's protector. The social, legislative, executive, and judicial repository of roles "was the conventional ruler" (Caring et al., 2013), and his title derives from the institutions of community leadership that existed before modern Nigeria was established. While they no longer have formal political authority, these rulers still have significant control. They are held in high regard by their societies and revered, so much so that others seldom doubt their words.

With the introduction of SBMCs, the school communities' traditional representatives were required to act as chairmen of the committees (UNICEF/FME, 2012). Consequently, as opposed to the other participants, the traditional rulers in the committees exerted considerable influence. Their decisions were seldom questioned, posing a considerable obstacle for the voice of youth in committees. Mika confirmed this, a Gwam's member youth committee, who said:

The problem with someone getting more influence is that we honor our conventional titleholders and you know that at the beginning of the committee, some of them

were members. One does not want to dispute him directly in the committee, like the conventional dictator, whatever he says.

The absolute essence of the traditional ruler's power influenced the participation of the committee's young members. The involvement of traditional leaders even limited the voice of adults. One adult member of the Gunu committee, Makada, stated that:

Our royal fathers here are the traditional title holders, so we love them a lot. Even if we disagree with what the Dagaci [the traditional ruler] decides, no member can challenge it when he is the president because it is disrespectful.

He added that:

Although our society has become modern, there is still a hidden structure among the people of our society that acts as a driving force and a hidden force, and even new laws and social media cannot change this structure much.

Lack of Participatory Culture in Decision-Making

Participants also revealed the practice of not including young individuals in making collective decisions. The participants were hesitant to make any direct attempts to express themselves when they joined the committees since they felt that the adult committee members acted in their best

interests. When the youths saw a need to advocate for themselves and their peers, they were ready to speak up and be heard. Ibrahim, a young member of the Gwam committee, revealed that:

I did not like going to those meetings at first. The explanation he gave was that "our instructor was there, Mr. Musa." Mr. Musa would call the head girl and me after the meetings to brief us if there was anything. "When he was pressed in the committee about the various ways in which he conveyed his views and desires, he responded," Mr. Musa used to propose to the members of the committee what we wanted.

Likewise, Rahman said that he was on the committee with his father and teachers, so there was no need to attend the meetings. He clarified further that:

When I joined the committee, I did not care to try to take steps in the committee. We do not talk because our teachers, my father [Committee Chairman], and other adults serve us, just as we do not go to meetings much, even though we go to meetings. They know our needs, after all, and they know our needs.

During the early stages of the Committees, adult members affirmed the culture of very little youth involvement in Committee decision-making. Yusuf, an

older member of the Gwam board, said that adults did not promote active youth involvement because they regarded youth as their children and students and thus felt that they were aware of the young people's needs. He clarified further that:

Since some of them are our girls, and some of them are our students and some of our brothers and sisters, we thought we had known the problems of youth before (at the beginning of the committee). However, we later realized that there was a need for reform, so now we are encouraging them to represent themselves.

In addition, Kenneth said:

In my opinion, we, as a youth, know the problem and issues of our generation more than other people, especially adults. There is no will to hear our voice. I think it is a cultural issue in many developing countries that adults neglect young people, and they want us to obey traditional family and society rules. There is bias or mindset that cannot be changed in a short time.

The lack of youth membership in school committees has historically made it difficult for adult members to recognize youth as equal partners in the SBMCs. Members of the two communities were not used to having young people as committee members participating in the school administration

before introducing SBM. For example, the Parents-Teachers Association (PTA), which existed before the SBMC was formed, never had students or young people as members. At the outset, the mandate of the SBMCs to include youth as committee members proved troublesome for adults and made it impossible for them to recognize youth as committee members of equal standing. Adults agreed that they did not trust and respect young people's efforts and did not value their involvement. The Chairman of the PTA in Gunu, Mr. Kenneth, suggested:

The PTA is strictly an association of parents and teachers, but the SBM committee must be represented by pupils, alumni, and youth organizations. This was new to us and was not initially supported because we thought that the young people could not contribute anything important to the committee, like the pupils. Later, however, we understood and got used to it.

Conventional Role Divisions

Young people and adults have historically had different positions in decision-making and transparency in Nigerian society. This, like many traditional traditions, stems from the idea that age comes from knowledge. With their physical energy, young people are also assigned physical duties, such as sweeping the complex, cutting grass, working on the farm, and running errands at home. In the early stages

of the SBMCs' work, the standard position differentiation between youth and adults in both societies manifested itself. Adults took full responsibility for decision-making at the outset, while young people were given physical tasks. Yusuf, an adult member of the Gwam committee, addressed the various positions performed by the participants at the start of the committee:

We felt it was difficult to offer the advice adults give to young people. The young people were then assigned the committee's physical work; they typically helped preserve the environment, create and track other school activities. Adults cannot do that, as you know, and so they mostly gave advice and made choices.

A youth member of the Gunu committee, Yunusa, said:

In particular, young people have been allocated to engage in the execution of work involving physical strength. During the building of two blocks of classrooms, we provided labor in the form of digging the base, combining cement and sand, and providing blocks.

Aduke, a female secretary, further stated that:

Traditionally, there is a division of roles in the environment in which we live, and everyone, young and old, respects it, and especially

adults expect younger people to respect and respect local traditions, and any violation of these so-called indisputable principles by adults will not be removed.

DISCUSSION

Culture, which has to do with the beliefs, values, habits, norms, visions, systems and symbols of a specific community, has been used to define and reinforce perspectives that discriminate against young people (Peretomode, 2012). Although biological differences between youth and adults exist, it is culture that is usually responsible for the construction and interpretation of these differences (Anderson, 2010). Thus, many societies consider young people as having a lower social status than adults in spite of the important roles youth often play in groups, denying them the opportunity to participate as equals in decision-making (The Alliance & UNICEF, 2013).

The current study found that the cultural thoughts and practices of the people comprising the committees heavily favored adults, which affected youths' ability to make an impact in committee decision-making. As illustrated in previous studies (Checkoway, 2011; Maynard, 2008), age served as a basis for power imbalance with adults being shown respect in the two communities because of their age. Thus, adult members used that veneration to their advantage by imposing their will on the youth committee members since they knew that they were not likely to be challenged. The youth found it difficult to express their views, as such

acts were perceived as being disrespectful to the adults and against the culture of the communities. It should be noted that respect in this context does not mean respect for someone's opinion, but respect for an elder as a person. However, respect for the opinion of others is indeed important for youth voice and as such desirable in a committee. On the other hand, preferential respect for an older person to the extent of restraining oneself from challenging a viewpoint detracts from committee work. The youth committee members felt deterred from voicing their opinion for fear of being seen as violating "the cultural practice of customary obedience to those 'above you': either in age or social rank" (Irabor & Omonzejele, 2009). This restraint impedes young people's progress toward becoming inclusive decision-makers.

Checkoway (2011) stated that it was challenging for youth to participate when adults saw them as "deficits" and not "resources", a view that flows from the thinking that young people, because of their age, were not as good as adults and as such needed adults to act on their behalf. This act of silencing youth stems from the negative views that adults have about the limitation of youth competencies based on age (Maynard, 2008). Often, age differences can result in a lack of collaboration, the absence of shared appreciativeness and good faith, misconceptions and biases, and lack of knowledge about the other's interests and ways of life (The Alliance & UNICEF, 2013). Although youth are less experienced than adults, youth maintain expertise and

unique insights on a number of topics that concern their lives such as dealings with peers, their community, and their schools, and therefore their unique expertise in these areas can act as a critical complement to the knowledge and experience of adults (Maynard, 2008).

Previous studies have shown how school committee members from the community can provide an important form of leadership and source of social capital to such committees (Bandur, 2012; Baruth, 2013; Barnett, 2012; Mncube, 2009; Parker & Raihani, 2011; Santibañez et al., 2014). In the current study, however, the involvement of traditional rulers in the two SBMCs perpetuated power imbalance and hindered youth voice. Historically, the traditional ruler in Nigeria was the head of the traditional system of government indigenous to Nigeria since the precolonial period (Songonuga, 2015; Tonwe & Osemwota, 2013). He was responsible for executive, judicial as well as legislative powers in the community and governed autonomously. However, following Nigeria's colonization by Britain and later its independence in 1960, those functions were ceded, thereby undermining and reducing the traditional rulers' functions to an advisory and guardian role of traditions within their respective communities (Jahun, 2015; Songonuga, 2015). The legacy of power they had previously wielded still resonates among the people, however, so much so that their opinions and instructions are rarely challenged by community members. It is in recognition of this respect for traditional rulers that the government

often routes its policies and programs such as census, vaccinations, voter registration and electoral matters through the rulers (Jahun, 2015).

In deference to this aspect of the culture, the SBMC implementation guidelines require that the traditional ruler of the community becomes the chairman of the committee (UNICEF/FME, 2012). However, the incorporation of traditional rulers into the SBMC as committee chairmen did little to further youth voice because of the exigencies of youth voice. SBMCs are meant to govern according to democratic principles, which are at variance with the traditional, authoritarian style of leadership (Bandur, 2012). Instead of providing leadership and acting as a source of social capital for the committees, the traditional leaders focused on consolidating their power over the rest of the members. This, in turn, did not augur well for youth voice in particular and for the committees in general. Since committee members were viewed as 'subjects' of the traditional rulers, the members found it difficult to challenge the rulers' decisions. This posed a challenge for youth to share their views in the committees until the traditional rulers later relinquished their membership. This finding resonates with Golombek (2006), who reported that youth voice was not likely to flourish where a traditional style of leadership that was not in tune with democratic principles was used to run an organization.

In addition to the heavy-handed role and practices of the traditional rulers, the absence of a culture of youth inclusion in

decision-making was also a challenge to youth voice in the committees. The non-involvement of youth is a prominent aspect of traditional Nigerian culture that runs through all the major social institutions including the family. The extended family, which is the most common family system in Nigeria, is largely collective in nature with members having strong family ties. In such families, members often consult other members -- especially the older ones -- rather than rely on their personal opinion (Peretomode, 2012). Davey (2010) had argued that this type of family could lead to complacency among young members who were socialized to accept that adult's opinions were, by default, better than theirs and that adults were always in a better position to make decisions on the young member's behalf. This, therefore, denies youth the opportunity to appreciate the basis upon which decisions are made and limits their contribution to the process (Davey, 2010). Similarly, Wright (1999) had identified that, often, youth's lack of confidence in expressing their voice in a group was the result of a culture that did not provide motivation for youth participation, including lack of support at home.

In addition to the lack of participatory culture within Nigerian school governing boards was the inability of adult members to accept youth as equals in the governing process. Prior to the introduction of the SBM, adults -- in general - were not used to having youth as committee members participating in the administration of the schools. For instance, the Parent-Teachers

Association, which predated the SBMC, did not have pupils or younger people as committee members. When the SBMC was introduced, the participating adults found it difficult to accept youth as their equals in committee membership. This hindered the adults' ability to support the youth and value their contributions to the committee.

The traditional role division between youth and adults constitutes a barrier to many youth voice projects (Mitra, 2008; Mitra et al., 2013). In many African families, for instance, the role of members are well-defined, and with decision-making left exclusively to adults, young people "are not allowed to speak among adults without permission and doing so can bring disgrace on the parents and punishment" (Lansdown, 2011). In a school setting, role distinction is also found to pose a problem to youth-adult projects aimed at enhancing student voice, the reason being that youth and adults often revert to their traditional roles of teacher and student: the former directs while the latter just complies (Mitra, 2007, 2008, 2009).

Similarly, the role distinctions inherent in the two communities in the current study allowed adults to assume full control of decision-making due to the belief that "wisdom comes with age", while the youth were given tasks involving physical labor. This traditional role distinction between youth and adults in both communities was manifested and maintained at the inception of the two committees whereby the adults assumed responsibility for the committees' decision-making.

It is important to note important limitations of the current study. The study results are unique to SBMCs in Niger state. The findings of SBMCs in other settings may not be commonly applicable. This is because their delimitation, sample, and cultural context restrict the generalization of qualitative study findings. Since youth voice is fairly new in school-based youth-adult partnerships in Nigeria, future work is needed that documents successful examples of youth-adult partnership within this same cultural setting. Such efforts could focus on how a balance of power can be achieved to increase youth voice despite the barriers that exist within the setting. Furthermore, the current COVID-19 pandemic raises an entirely new set of challenges for developing countries, in particular, the fate of young people who have had their education and career trajectories severely disrupted. Community-based youth-adult partnerships that provide young people with apprentice-like opportunities to learn important skills through close working relationships with adults will prove invaluable given the possibility of future limitations in education and formal skill training caused by the COVID-19 pandemic.

CONCLUSION

This study brings insight to the experience of youth voice within the context of school-based youth-adult partnerships, which is still new in Nigeria. Specifically, the study reported that the power imbalance between youth and adults that limited youth voice at

the inception of the committees was a result of culturally-related factors. The study has expanded our understanding of Y-AP -- and its barriers -- in organizations by looking at it for the first time from a Nigerian cultural setting. The findings elucidate the numerous pitfalls that traditional power relationships can play to limit youth voice, especially at the inception of Y-AP initiatives. Awareness of these potential barriers can help program planners attempting projects in similar settings.

ACKNOWLEDGEMENT

We would like to acknowledge the respondents for their cooperation.

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Balance Comparison between Iranian Elderly with and without Knee Range of Motion Limitations

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ABSTRACT

This study compares the static eye movement (eyes open and eyes closed) and dynamic balance amongst Iranian elderly with and without knee range of motion (ROM) limitations. The method used was a quasi-experimental before/after study. The participants consisted of 30 older Iranian adults, aged 60 or more (10 females and 20 males across two groups of 15 in each group) who were evaluated using the Sharpened Romberg (SR), Timed Up and Go (TUG) tests. An independent t-test was used to compare the descriptive characteristics of the two groups of the elderly. The findings showed substantial alterations in all the measured components between the subjects. The static balance with an open eye ($p = 0.028$) and closed eye ($p = 0.021$), as well as the dynamic balance ($p = 0.009$) between the elderly with and without the limitation of knee ROM, was substantially different. Moving forward, the findings of this study suggested that the balance of the elderly was directly linked to knee ROM, as the elderly without limitations of knee ROM displayed greater stability than the elderly with limitations of knee ROM. Health care practitioners should also understand the ROM of the knee, as individuals with ROM limitations of the knee are more likely to fall due to underlying disorders associated with their balance.

ARTICLE INFO

Article history:

Received: 13 November 2020

Accepted: 11 March 2021

Published: 14 April 2021

DOI: <https://doi.org/10.47836/pjssh.29.S1.20>

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Keywords: Dynamic balance, elderly, falls, knee range of motion (rom), static balance

INTRODUCTION

The COVID-19 pandemic is an unprecedented health crisis, as the aging population has been asked to self-isolate and live in home-confinement for several

weeks to months. This, in itself, represents a physiological challenge with significant health risks. These unprecedented conditions can reduce neuromuscular functions, muscle mass, strength, endurance, and joint range of motion (ROM) amongst older people (Barzegari et al., 2019). Research has shown that aging induces changes in the musculoskeletal system, leading to substantial changes in the motor skills required for the performance of functional tasks, such as balance and posture due to the COVID-19 outbreak. These changes and their consequences have been strongly associated with an increase in the risk of falling (Concha-cisternas, 2019).

Given that the aging population contributes to the personal and socioeconomic toll attributed to accidental falls, it is fitting that over the last 30 years, a considerable amount of research has been devoted to the issue (Rubenstein, 2006). Due to the high morbidity, falls are now one of the leading public health concerns amongst older adults, which costs money and mortality concerns for the family and the community.

Falling is one of the biggest problems affecting the health of older people. The majority of falls amongst the elderly arise from irregular processes of balance functions. Falls and injuries are critical issues that impact older individuals. Studies have shown that about one-third of people over 65 experience one or more falls per year (Sgarbieri & Pacheco, 2017). Approximately 24 percent of people who fall suffer a severe injury that needs medical

treatment, or results in a limitation of fracture or operation (Hornbrook et al., 1996). The effect of falling for the loss of the elderly cause of independence and financial burden and psychological, social, and economic effects, which have a significant impact on the community's health system. It is one of the most severe problems for the health of the elderly because of the significant complications and associated risk factors posed to the elderly (Akbari Kamrani et al., 2006).

Balance and the production of muscle force are directly linked to age-related muscular changes (Kamalden, & Gasibat, 2020). Studies on the prevention of falls have concentrated on different group training and individualized strength training. There is, however, a lack of evidence on strengthening critical muscles required to maintain balance and postural stability (MacCulloch et al., 2007; Safikhani, et al., 2011). Studies have shown that impaired functions of sensorimotor factors are responsible for balance or postural stability, shown in elderly subjects who have had falls (Spink et al., 2008). Inactive lifestyle and aging-related physiological changes characterized by a gradual decrease in muscle power, joint motion range, reaction time, and sensory systems, contribute to the decreased physical ability and increased risks of falling (Borah et al., 2007; Howe et al., 2011; Lang et al., 2010).

According to the Iranian Centre of Aging, falls are the most common complication that older people face, which imposes burdens such as massive hospital

costs, medical treatment, and rehabilitation on the family, the elderly, and society as well (Manoochehry & Rasouli, 2017). Low balance is a significant factor in decreasing age-related mobility and increased risk of falls in the elderly. Some deficiencies in fitness factors cause falls. For example, a deficiency in balance, a weakness in the knee, and a decrease in the reaction tend to cause falls, resulting in consequences such as changes in the walking sequence (Ravindran, 2017).

ROM's limitation is known as a condition that involves the changes of articular cartilage, particularly in weight-bearing joints, e.g., the knee. It is the most common type of lower limb restriction amongst the elderly. It interferes with independent functions. It is estimated that 80% of the population over 55 have changes consistent with knee ROM. Researchers have found that people with Limitation of Knee ROM exhibit balance deficits relative to their age, mass, and gender-matched control subjects (Manetta et al., 2002). Due to the severe complications and threats that were falling and its associated risk factors have for the health of the elderly, it is one of the most severe issues facing the elderly population, particularly in Iran, because Iran is experiencing a rapidly aging demographic shift (Afshar et al., 2016; Sheykhi, 2004; Sotoudeh et al., 2018). Most previous studies ignored the serious complications and threats that were falling and the related risk factors for the health of the elderly, especially in a country with a rapidly ageing population such as Iran.

The outcome of this study will tell the difference between the static and dynamic balance between the elderly with and without knee ROM limitation. It also determines what parameter needs to be improved based on the comparison of knee ROM limitations between two groups so that the knee-limited group can perform better. Qiao et al. (2018) found that knee joint variability during walking was balance dependent, with required step-to-step adjustments. The study results showed that through the improvement of knee ROM limitation, the participants developed positive changes toward their balance. Therefore, this study aimed to compare the static and dynamic balance amongst the elderly, with and without knee ROM limitations in Iran.

LITERATURE REVIEW

Balance is an essential requirement for daily activities and plays a vital role in static and dynamic activities. Research on the elderly showed that aging significantly impacts balance types (Justine et al., 2010; Norheim et al., 2020). According to previous studies, the imbalance has been one of the main reasons for falling amongst the elderly (Hsu et al., 2014). Researchers paid attention to the phenomenon of balance in this age group. Falls have a high prevalence and have become a significant public health problem due to the high economic and functional costs amongst the elderly. To avoid these events, it is essential to know that the anatomy of the physiological changes associated with aging and plan health strategies where bone, muscle, somatosensory (proprioceptive),

and cognitive stimulation are incorporated is needed to avoid functional impairment and disability (Concha-cisternas, 2019).

Furthermore, physical and psychological consequences of falls, such as impaired mobility, depressive symptoms, and the decline in the functional ability for various daily living (ADL), are expected. This leads to disability amongst older adults. Fear of falling compounds the problem and may lead to a reluctance to participate in physical activities, less confidence, depression, social isolation, and, consequently, more need for long-term care facilities (Sotoudeh et al., 2018). The prevalence of balance deficits increases with age and is associated with an increased incidence of falls seen in the elderly population; these falls are associated with significant morbidity and mortality. Balance is an essential consideration in the health of elderly subjects. It is estimated that 13% of adults self-report imbalance from ages 65 to 69, and this proportion increased to 46% amongst those aged 85 years and older (Osoba et al., 2019).

The progressive decline in older people's physiological function that usually occurs over decades is associated with difficulties arising from a seated position and balancing themselves. Some physiological changes inevitably occur with age; however, it seems that by improving the quality of life (QOL) and examining physical status, the effects of aging may be reduced. Therefore, preventive strategies adopted even at an early age can help improve older people's living conditions (Mcphee et al., 2016).

Balance is defined as maintaining optimal posture in both static and dynamic positions. Previous studies have shown that imbalance in most situations leads to falls, which is one of the most common and severe problems of old age and has physical (pelvic fracture, disability, loss of physical ability, and death), psychological (loss of confidence and self-esteem and decline in life expectancy) and financial consequences. Older adults usually fall several times a year, resulting in fractures, soft tissue injuries, immobility, and eventually, long-term disability and immobility, or even death (Barzegari et al., 2019).

Balance is a skill and ability for the central nervous system learned through the use of different body systems, including all of the muscular sensory systems and different parts of the brain, to maintain balance. The body must be stable and strive to hold the center of gravity (COG) on the footrest. These three systems are involved in balancing work together and are all critical in maintaining a well-coordinated situation. Balance, a basic requirement for daily activities, plays an essential role in static and dynamic activities (Anderson & Behm, 2005).

The balance function is the ability to maintain the center of mass (COM) at the support base. The interaction between the sensory inputs from proprioception, visual and vestibular systems, motor systems (such as muscle strength and muscle activity), and cognitive components. Reduced balance function is associated with an increased risk of falling, which is one of the leading causes of hospital admissions amongst older adults,

and could lead to other consequences such as fracture, joint dislocation, soft-tissue injury, loss of independence, and mortality (Liu et al., 2017). Damage to any of the balance regulation levels influences the postural system's output, resulting in an increased risk of postural instability and fall, which could generate dramatic consequences amongst the elderly. Knee ROM limitation is seen as one of the most prevalent joint disorders and affects many different joint areas in the body, causing pain, stiffness, decreased function, and health status. The knee is the most frequently affected joint of the lower limb, and it has become a widely used joint alteration model in studies on balance control, for both muscular and joint proprioceptive differences, and in motor efferences (Gauchard et al., 2010).

Balance and its Types

Balance is the maintenance of the body's resting state, even if force is exerted on it. All forces quickly state the aspect of balance in terms of equal size and opposite direction. Balance is classified into three categories:

1. Static balance
2. Dynamic balance
3. Neutral balance (Whittle et al., 2012).

Static Balance

The body maintains its resting state even when a force tends to disturb its balance. This is called static or stable balance. In general, when the support level is higher, and COG is lower the balance increases. (Whittle et al., 2012).

Dynamic Balance

The minimum force needed to disturb the balance of the object is called dynamic or unstable balance. The object will have little balance when the support surface is low, and the COG is high (Whittle et al., 2012).

Neutral Balance

In the neutral balance, despite the object's movement in the body, there is no change in the COG of the object (Okubo et al., 2019).

Level of Reliance in Balance during Walking

The high COG, two legs, and the low level of human reliance distinguish it from others. Although this condition facilitates displacement, maintaining the static and dynamic balance is more complicated and increases muscle function and pressure on the bones and ligaments. The head, arms, and trunk (HAT) are carried with the lower limb's alternating movements. HAT consists of 75% of the total body weight (head and hands 25% and trunk 50%). In a standing position, the HAT weight is borne by the legs, but while walking, the weight of the HAT and the lower limbs of the swinging body are also carried on the other foot, which is the weight-bearing leg. It changes periodically with time. Therefore, one should be not only able to withstand the weight of HAT while standing in balance on two legs, but also be able to keep the weight of the swinging leg in balance in addition to the weight of the head, arms, and trunk, by keeping one foot on the ground, and lifting one leg above the ground to the other. One

has to do this alternately without disturbing the balance. Performing this complex activity requires coordination, balance, the health of the deep and motor senses, and healthy muscles and joints (Qiao et al., 2018; Soh et al., 2018).

Range of Motion (ROM)

The muscles can produce an internal force for the body, and an external force, which is applied manually or mechanically. Moving a joint is changing the angle of that joint. The angles in which the movements are made are called ROM. If the soft tissue around a joint is healthy, ROM of the joint can be optimal. Any alteration and disruption of the soft tissue can affect the ROM in the joint. Generally, in joints with movement limitation, ROM is typically lower than in normal joints, and vice-versa. ROM can be measured using a goniometer (Soh et al., 2003).

Limitation of Knee Range of Motion (ROM)

It is determined that a normal knee should ideally be able to flex between 133 and

153 degrees and extend to 180 degrees. A reduction in the normal range of motion in the knee joint is known as limited ROM in the knee. It is the most common form of the lower limb’s limitation related to the elderly and involves changes in the knee joint (Liikavainio, 2010).

Types of ROM: Active and Passive

Active ROM. ROM that can be created in a joint only with the help of the individual and without any external force. In general, the active ROM in a joint with movement limitation will be less.

Passive ROM. ROM is created by an external force that is naturally more than the active ROM. In little joints, the passive ROM is a much more active ROM because of the shortened structures pulled by passive forces, which are not possible with active forces. ROM varies from one joint to another (Whittle et al., 2012). For a better understanding of study variables, see Figure 1.

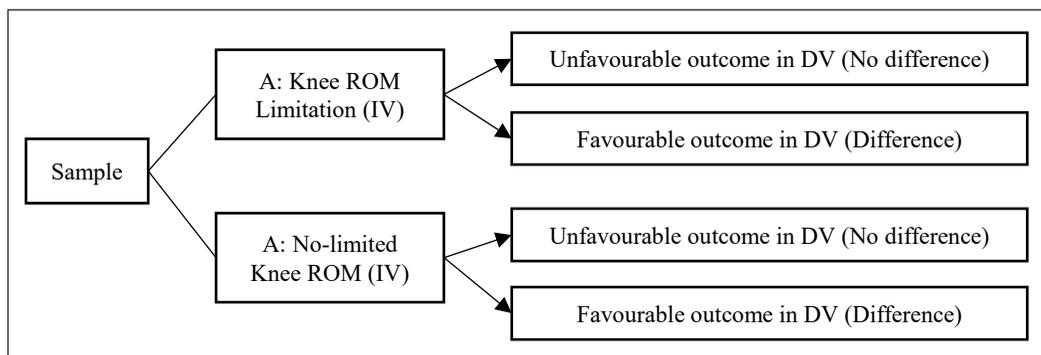


Figure 1. Conceptual framework

METHOD

Research Design

Research design is an integral part of the research. It is a basic structure covering the overall strategy regarding the method to be used in the study. Selecting a correct research design that tallies with the objectives helps obtain an authentic result (Haegele & Hodge, 2015). In the medical informatics literature, quasi-experimental research designs, also defined as nonrandomized, and pre-post intervention studies, are common (Harris et al., 2006).

This study used a quasi-experimental approach to determine the balance parameter's differences between the elderly and knee ROM limitations. This study's primary instrument was the Goniometer MSD (Whittle et al., 2012) in evaluating the knee flexion/extension ROM. This study measured the static balance of older people with their eyes kept open, the static balance of the older people with their eyes closed, and the older people's dynamic balance. This evaluation was based on the changes in the limitation of the knee ROM as an independent variable. The comparison in this study was then used to compare the elderly with and without knee ROM limitations. The relationship between independent and dependent variables is vital to determine the elderly's balance to be improvised or changed to an optimal situation with various interventions.

Population and Sample

The 2011 census observed a significant demographic change in Iran's elderly population (the proportion of the elderly population rose from 7.27 percent to 8.20 percent from 2006 to 2011, and 8.65 percent in 2016). In 2025, the aging population is expected to increase to 10.5 percent, and in 2050 to 21.7 percent (Manoochehry & Rasouli, 2017). In this study, the target research population was the elderly in the age group above 60, in Tehran, Iran. The research sample consisted of 37 seniors who were non-randomly selected from the Norast Yara Elderly Centre in Tehran, Iran. This sample was selected because they were much more at the risk of falling in their age group. They consisted of 25 males and 12 females. They were subjected to various tests and were instructed to perform the test accurately.

To select the test samples, the research plan was described first, and then the orthopedic and neuromuscular disease records of the study participants were assessed using the questionnaire. Those with practice surgery on the lower limb joints were also excluded from the study and those with poor performance according to the protocol. To ensure the subjects' health and their ability to participate and complete the test, a medical questionnaire and simple tests, such as walking 0.2 km, were used. Finally, of the 37 individuals who were evaluated, 30 (Male=20 and Female=10) met the eligibility criteria, completed the tests correctly, and used the associated data for statistical analysis.

Instrumentation

In this study, three parameters for comparison needed to be evaluated to identify the differences between the elderly with and without knee ROM limitation. The three parameters were static balance with open eyes, static balance with closed eyes, and dynamic balance. The instruments used in this study were the Sharpened Romberg test (Reliability: 0.90- 0.91 for open eyes and 0.76- 0.77 for closed eyes) to measure static balance. The Timed Up-and-Go test (TUG) (Reliability: 0.99) was used to measure the dynamic balance (Barry et al., 2014). The knee flexion/extension ROM was measured with a standard tool using the Goniometer MSD (Whittle et al., 2012).

Procedures

The researchers provided a complete explanation regarding the purpose of the research, how it was to be conducted, and the confidentiality of the information obtained before obtaining the subjects' consent. The current study data collection followed the Ministry of Health principals of patients' rights and regulations (Islamic Republic of Iran, Ministry of Health and Medical Education, 2001).

All subjects signed the consent form to participate in the research tests and were then briefed on how to perform the tests. In order to perform the tests, the subjects were coordinated in two groups, and the tests were carried out as follows:

1. The person sits on the edge of the bench, and with their hands grasping the flat edge until the hip

is fixed, and leans back to reduce the hamstring muscle tension. This is carried out because of pain and discomfort in these muscles inhibit knee extension. Then we asked the person to keep their knee straight. ROM measurement was performed on the sagittal plane so that the Goniometer axis was positioned on the outer condylar of the femur. Those with knee extensions less than 180 degrees were identified as individuals with knee joint limitations (Whittle, 2012), which resulted in the subjects being divided into two groups, with and without knee ROM limitation. Of the 30 subjects, 15 were fell into the knee-limited group, and 15 in the non-knee-limited group.

2. The height and weight of each subject were measured using the standard metal height scale.
3. Static Balance with Open and Closed Eyes: Sharpened Roomberg test was used to measure the static balance (Gras et al., 2017). The test was performed on the subject under barefoot conditions, so that one of the legs (the dominant leg) was positioned ahead of the other, and the arms were placed crosswise on the chest. Each subject's length of time could maintain this position with eyes open and closed was illustrated as the test score (Gras et al., 2017). To get acquainted with the test, the subjects practiced it

three times. Then, each test was performed three times with open eyes, and three times with closed eyes. Each subject was able to maintain this position with their eyes open and closed was scored, and the average of these three tests was then recorded.

Dynamic Balance. Timed Up-and-Go test (TUG) was used to measure the dynamic equilibrium (Gras et al., 2017). Activities such as walking and getting up from a chair were necessary motor activities and extremely important in independent daily living (Yuksel et al., 2017). Performing this test required that each subject arose from a chair without a handle, using a three-meter path, and then to sit on the chair again (Gras et al., 2017; Kashiani & Geok, 2019). Subjects were asked to complete this task as quickly as possible without running, and the total test time was recorded. To get acquainted with the test, the subjects practiced this practice three times before recording the tests. Time recording began with the person leaving the seat and being seated again. The subject's back needed to be in contact with the back of the seat before and after getting up. This test was repeated three times, and the mean of the three tests was recorded as a record for each individual. The TUG test involved standing from a seated position, walking around a cone placed 3 meters away, and returning to a seated position on the original chair. Healthy men and women completed the task within 7 seconds (Bijlsma et al., 2013), and frail

people took 10 seconds longer (Kashiani et al., 2020; Turner & Clegg, 2014), suggesting that a score between 7–10 seconds was indicative of pre-frailty.

Ethical Considerations

Ethical considerations can be defined as one of the most significant components of the analysis. Study participants should not be harmed in any way, whatsoever. It is necessary to prioritize respect for the dignity of the research participants. Before the study, full consent was obtained from the participants (Connelly, 2014). Ethical considerations for the current study are as follows:

1. Informed consent (Moore & Savage, 2002) was obtained from all study subjects.
2. Full and adequate supervision by the researcher and an assistant anticipated full and adequate supervision and adequate supervision during the tests to prevent any injuries or falls. In the case of falling fall, a doctor was present during the tests in the center.
3. The researcher protected the personal information of the subjects (Caudill & Kaplan, 2005).
4. The study subjects were free to discard themselves at any stage of the research at their discretion, for any reason, or even without any particular reason.
5. In case of any severe illness or disability, the researcher was ready

to coordinate and follow up on the treatment and rehabilitation of the studied elderly.

DATA ANALYSIS

In this study, after collecting data, the mean, standard deviation, and percentile rank in the descriptive statistics and the normality of the data distribution were evaluated using the Kolmogorov-Smirnov normality the equality of variance using Levine’s test. Inferential analysis was used to compare the biomechanical properties of the two groups. The tests were field type, and data were analyzed using SPSS version 25 (The Statistical Package for Social Science). Descriptive statistics were used to calculate the mean and standard deviation of the subject’s age, height, weight, and report the results of each group’s measurements. An independent t-test was used to compare the two groups with a significance level of $P \geq 0.05$ (Nekoei, et al., 2016; Soh et al., 2006, 2009).

FINDINGS

Descriptive Statistics

Mean and Standard Deviation (*SD*) for continuous variables were used in the

descriptive statistics to summarise the participants’ baseline characteristics. The results discussed the contents of this study. The data were analyzed using an independent t-test. All statistical analyses were performed using the Statistical Package for Social Sciences for Windows (SPSS) software version 25 with a significance level of 0.05. Table 1 shows the mean and standard deviation ($M \pm SD$) of the individual characteristics across the two groups of the elderly, with and without knee ROM limitations.

Balance Findings

Table 2 shows the mean and standard deviation ($M \pm SD$) of the static balance with the eyes open, the static balance with the eyes closed, and the dynamic balance across the two groups of the elderly with and without knee ROM limitations. The group without the knee ROM limitation recorded a higher mean score per second in the static balance category with open and closed eyes. The group’s dynamic balance with the knee ROM limitation was lower, which demonstrated a higher mean of balance time during the tests.

Table 1

Mean and standard deviation ($M \pm SD$) of individual characteristics ($N=30$)

	The group with knee ROM Limitation (N=15)	The group without knee ROM Limitation (N=15)
Age (years)	66.78 ± 4.98	65.56 ± 5.33
Weight (kg)	67.10 ± 9.80	66.98 ± 5.11
Height (cm)	171.94 ± 10.40	170.54 ± 7.69

Note. M = mean, SD = standard deviation.

Table 2

Mean and standard deviation ($M \pm SD$) of balance ($N=30$)

	Group with knee ROM Limitation (N=15)	Group without knee ROM Limitation (N=15)
Static Balance with open eyes (seconds)	28.90± 7.60	4.44 ± 35.54
Static Balance with close eyes (seconds)	9.65± 2.12	3.75± 13.81
Dynamic Balance (seconds)	11.68 2.29±	1.91 ±15.30

Note. M = mean, SD = standard deviation

Table 3

Comparison of static balance with open eyes in the elderly with and without limitation of knee ROM

	($M \pm SD$)	t	Df	Sig.	Mean Difference	Result
With Limitation of Knee ROM	28.907.06±	2.765	28	0.028	6.64	Reject H_0
Without Limitation of Knee ROM	35.54±4.44					

Note. M = mean, SD = standard deviation

Furthermore, the results of the independent t-test presented in Table 3 displayed a significant difference in the static balance with open eyes between the elderly with and without limitations of the knee ROM. Studies showed that through increased age due to disorders across various systems of the body, particularly for ROM limitations in the knee, “the ability of the elderly to maintain static balance with their eyes open” decreased (Rose & Gamble, 2006). In another study, reduced knee ROM had been found to correlate with decreased static balance with the eyes open, and subsequently, an increased risk of falls. These findings were consistent with this research work and suggested that knee joint ROM limitations were one of the significant risk factors of falling amongst older people. Improvements in the ROM of the lower limb joints, following an exercise intervention, had been found to correspond

with improvements in the balance stability (Lord et al., 2014).

This study’s findings in Table 4 showed a significant difference in the static balance with the eyes closed between the elderly with and without limitations of knee ROM. This study revealed that the knee’s ROM associated with static balance performance with the eyes closed amongst older adults with lower limb’s deformities resulted in performing less forceful movements due to the weakness and hypermobility of certain joints. The results showed the limitations in ROM as an essential factor influencing the changes in the elderly’s balance (Justine et al., 2010).

Lastly, the independent t-test presented in Table 5 displayed a significant difference in the dynamic balance between the elderly and without limitation of knee ROM. In a previous study, Qiao et al. (2018) found that knee joint variability impacted both static

Table 4

Comparison of static balance with close eyes in the elderly with and without limitation of knee ROM

	<i>(M ± SD)</i>	t	Df	Sig.	Mean Difference	Result
With Limitation of Knee ROM	9.65±2.12	2.943	28	0.021	4.16	Reject H ₀
Without Limitation of Knee ROM	13.81±3.75					

Note. M = mean, SD = standard deviation

Table 5

Comparison of dynamic balance in the elderly with and without limitation of knee ROM

	<i>(M ± SD)</i>	t	Df	Sig.	Mean Difference	Result
With Limitation of Knee ROM	11.68±2.29	3.341	28	0.009	3.62	Reject H ₀
Without Limitation of Knee ROM	15.30±1.91					

Note. M = mean, SD = standard deviation

and dynamic balance, and the perturbations elicited more massive and more pervasive increases in the knee joint ROM outcome measured amongst the elderly. The authors found that the knee joint variability did vary in the knee joint kinematics, occurring predominantly during dynamic balance. As a result, aging increased the susceptibility of the knee joint angle variability of balance with larger and more pervasive effects in the elderly. Qiao et al. (2018) also reported that the reduced ROM, especially around the knee joint, was one of the leading causes of falls, mainly due to the effects of thigh stiffness on the lower extremities' dynamics during walking, which could affect the dynamic balance.

DISCUSSIONS

Various studies have shown that with increasing age, "the ability of older people to maintain balance" decreases due to disorders in various systems of the body, especially

due to physical and mobility limitations (Cuevas-trisan, 2017). In this study, a significant relationship was established between balance types and knee ROM limitations. The results of this study showed that the balance of the elderly was directly related to the ROM of the knee, as older people without limitation of the knee ROM demonstrated much better stability than those with knee ROM limitations. These findings are in line with the previous studies such as Chiacchiero et al. (2010) and Cao et al. (2007) that the presence of limitations in the knee ROM could affect the balance amongst older adults.

This study showed that the balance of the elderly was directly related to the ROM of the knee. This is also consistent with the previous studies that older people without limitation of the knee ROM demonstrated much better stability than elders with knee limitations (e.g., Vaillant et al., 2009). Therefore, the loss of motion amplitude

and limitation in the knee ROM could affect balance amongst older persons. The physical activity and flexibility significantly influenced the motion's amplitude in the training exercise, which can be considered a therapeutic strategy across many older subjects who suffer from reduced cognitive and physical performance. (Lauretani et al., 2018). The need for a good range of motion of joints is measured while walking. In fact, by increasing the joints of the ROM in subjects with limitations, it may be possible to eliminate some of the motor disorders of the lower extremities amongst the elderly. Lower limb weakness, especially knee extensor weakness, is a condition that alters the average balance, and this condition may result in decreased stability when carrying out daily tasks (Rafiaei et al., 2016).

Various studies have shown that with increasing age, "the ability of older people to maintain balance" decreases due to disorders in various systems of the body, mainly due to physical and mobility limitations (Cuevas-Trisan, 2017). Macrae et al. (2013) believed that muscle weakness in the hip abductors, extensors and knee flexors, and the ankle flexor's dorsal muscles were associated with risk of movement, maintaining balance, and walking.

Chan et al. (2018) also reported that reduced ROM around joints in lower limbs was one of the leading causes of falls, mainly due to the effects of knee limitation on the dynamics of the lower extremities during walking, affecting the balance. Another study revealed that ROM of the lower limb joints associated with balance performance

in older adults with lower limb deformities resulted in less forceful movements due to the weakness of mobility across certain joints. The results cite restriction in ROM as an essential factor influencing the changes in balance amongst the elderly (Justine et al., 2010).

According to the results from previous research works, the current study results also showed that the lack of restriction in ROM was associated with improved balance amongst the elderly. Therefore, due to the function of 'muscle strength' and optimum ROM of the lower extremity joints, it is recommended to minimize changes in the balance caused by aging, for example when performing sports activities, particularly strength and stretching exercises, to improve the strength, flexibility, and the ROM between the joints amongst the elderly.

CONCLUSIONS

Researcher found out that this research has successfully achieved all the objectives set. All of the information obtained from this study should be used to improve elderly's balance so that it can benefit both society and the elderly. The results highlighted exercise training interventions can improve gait pattern of the elderly with knee ROM limitation and increase the strength of the legs and balance of the elderly. This result emphasizes the improvement of flexibility and increase ROM of the joints, especially the knee in the elderly.

Furthermore, the results of this study showed that the balance of the elderly is directly related to the strength of the leg

muscles and ROM of the knee as elder people without limitation of knee ROM. The results demonstrated a better stability than the elders with knee limitation. Therefore, the loss of muscle strength and presence of restriction in knee ROM could affect balance in older persons. Specific trainings can be implemented to enhance the elderly's ability to maintain static and dynamic balance, which can improve physical function, and decrease risk of falls.

LIMITATIONS AND SUGGESTIONS FOR FUTURE STUDIES

The population in this study consisted of only of the elderly in the stated center in Tehran, Iran, where only these persons in the centre had access to the researchers with restricted data and records, including the age of the subjects (people over 60) and the decision with regards to the sampling methodology. Purposeful sampling, therefore, limited the generalizability of the results, and did not generalize it to all older people in this sample. In the study, healthy subjects were used, but the investigator was not aware of the existence of underlying conditions in the system related to balance control. This was because, when conducting experiments and the exhaustion procedure, this research was unable to monitor the mental state of the participants.

The following points provide two recommendations for future study guidelines. The advice to further this research is to test the balance of older adult. In order to determine how to improve the

balance pattern amongst the elderly which can enable them to be much more efficient in terms of the physical activities which leads to a better QOL, future research should be carried out. Firstly, it is crucial to analyze the simultaneous effects of hip ROM, knee and ankle joints on the elderly's balance parameters. Adding more variables to fit the balance parameters in the future analysis to see if there is a substantial difference between two elderly groups with and without limitation, is also advantageous. Secondly, the kinetic aspects of the dynamic balance amongst the elderly with knee ROM limitations should also be used in future analysis, so that similar goals can be used to assess the variations in the balance parameters amongst the elderly with, and without knee ROM limitations.

IMPLICATIONS

Theoretical Implications

Therefore, providing training programs with the necessary principles to strengthen muscles and also to achieve optimal ROM amongst the elderly is one of the strategies which can be used to drive the benefits in the life of the elderly, and reduce imbalances and falls. Additional studies are required in the field of maintaining of balance amongst the elderly. Furthermore, to achieve the proper balance, the results of this study can help the elderly care centres develop health, which brings significant changes to the QOL in the elderly community. Moreover, to better understand physiological and psychological contributions, it may be helpful to use an

inter-disciplinary approach to discuss the balance across a different population. Across a broader sample, a similar analysis can be applied, and also for a more extended period, a related study can be carried out. Finally, a correlational analysis across multiple variables can be conducted specifically on the balance amongst the elderly.

Practical Implications

Specific strength training programmes, vibration exercises, massage therapies and Pilates will be helpful to increase the ROM of the knee joint, particularly amongst those with restricted mobility in this joint. It can help to improve the imbalance conditions amongst the elderly with limitations in the knee ROM, ranging from weakness in the leg muscles, low physical health of the lower extremities, and limited range of motion in the knee. Therefore, one of the techniques which can be used to benefit from the positive effects and successes in the lives of the elderly, and to minimize imbalances and falls in the elderly, is to provide fitness programmes with the requisite concepts to strengthen muscles and also to achieve optimum ROM amongst the elderly. In addition, the findings of this study will enable the elderly care centres to improve fitness, in order to achieve the right balance, bringing about major improvements to the QOL amongst the elderly population.

ACKNOWLEDGMENT

We would like to acknowledge the respondents for their cooperation.

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Role of Principal in Promoting Teachers Unity: Evaluation in Malaysian Secondary Schools

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ABSTRACT

The inability of teachers to accept cultural, linguistic, and religious differences caused by racial differences can have a negative impact on unity. The literature suggests that principals can play a role in addressing this issue. Thus, the purpose of this study is to determine the principal's role in promoting teachers' unity and to determine the relationship between the principal's role and teachers' unity. This study is a survey design and a quantitative method was used to collect data from 578 teachers in a population of 236,748 teachers in secondary school. The data collected was analyzed descriptively to produce mean value and standard deviation, therefore the level of principals' role in promoting unity and the level of teachers' unity can be interpreted. Inference analysis by Pearson correlation was done to determine r-value, therefore the hypotheses on the relationship between the two variables were tested. Overall, principals' role attained a high level in promoting unity with a mean score of 3.85, whereas the teachers' unity level was also at a high level with a mean score of 4.37. The result also shows that there was a positive relationship between the two variables but at a weak level with $r = 0.20$. This paper contributes to the body of knowledge that principals' role in promoting unity has had an impact on the teachers' unity level. This finding also shows that the Malaysian Education System Aspiration focusing on promoting unity is relevant and should be continuously implemented. Apart from having theories implication, the findings bear positive input for principals' training, and also provide input for the teaching fraternity to be more respectful towards each other's differences, thereby avoiding racism and discrimination amongst them.

ARTICLE INFO

Article history:

Received: 13 November 2020

Accepted: 11 March 2021

Published: 14 April 2021

DOI: <https://doi.org/10.47836/pjssh.29.S1.21>

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Keywords: Principal's role, racism, teachers' unity, unity model, unity values

INTRODUCTION

A few research articles focused on unity in Malaysia show that racism still permeates unity among Malaysians to a disturbing level. This global phenomenon also happens in England and elsewhere (Miller, 2019). Miller (2019) also argued that the polarization of British society had made racism so common that even members of educational institutions were exposed to racial rhetoric. Therefore, educational institutions must play a significant role in overcoming all forms of inter-racial prejudice, whether by the curriculum, policy, practices, operating systems, and/or leaders and teachers stereotypes towards minority students (Tomlinson, 2008).

Department of National Unity and National Integration (2018) stated that unity existed when a country or nation was at peace without race conflict. This statement also means that unity can be achieved without forcing anyone to believe and to do the same thing or to have the same thought, but instead to accept or respect the diversity among them. Unity can be strengthened by practicing openness and tolerance against physical, cultural, linguistic, social, religious, political, ideological, and/or psychological differences between all parties. Unity over diversity should not be restricted (Akkerman et al., 2012). Their study has shown that cooperation is very important to enable group members to maintain unity despite their differences.

In the Malaysian context, unity is a process that unites members of society and the country through ideology (Shamsul

Amri, 2014). Unity can form a common identity and values as well as establish a sense of nationality in a multi-racial society. It has also introduced the concept of unity in diversity, which is a social phenomenon that can be driven by a deep desire for unity that can influence members of society to carry out various endeavors and activities as a prerequisite for achieving unity.

National unity in Malaysia is a social situation in which people from various ethnic groups, religious beliefs, and regional areas live together peacefully as a single Malaysian nation (Hussein & Haneza, 2017). Both also refer to the National Unity Advisory Panel, which formulates Malaysia as a united country according to the national ideology of the Rukun Negara and the Federal Constitution (Department of National Unity and National Integration, 2018).

Malaysia is the only heterogeneous country with a multi-ethnic society composition ranked 20th in terms of stability and peace (Institute for Economics and Peace, 2020), that is on the top of the list, but the Community Tension Index reading in 2017 increased by 2.1% from the previous year (Department of National Unity and National Integration, 2018). The lower level of 287 cases in 2017 compared to 342 cases in 2016 was achieved only for the category of demonstrations and protests. For the category of attacks and fights, the index reported an increase from 502 to 796 cases. For the conflict issue category, the report showed an increase from 252 cases in 2016 to 267 cases in 2017 (Department of National Unity and National Integration,

2018). This phenomenon seems to suggest that unity among Malaysians is fragile and fractured.

Unity level in 2014, 2016, and 2018 by the Educational Policy and Research Division (EPRD), Ministry of Education Malaysia (MoE) seems to support a statement that the level of unity is decreasing. In those particular years, the study showed that the unity index ranged from a high to a medium level only (i.e. not at a very high level). The findings also showed that the ability to accept differences was the lowest. Overall, the teachers' unity was moderately high in 2014 with a 7.3/10 index, but gradually decreased to 6.9/10 in 2016 and decreased to 5.5/10 in 2018. Even at the same level, which is moderately high, it is important to study the factors that caused the decline in the index.

Attempts to promote unity in school have been made by the MoE through various activities involving several Divisions. The emphasis on the role of the principal in secondary school towards fostering unity can also be seen through the initiatives of the MoE, which empowered the Aminuddin Baki Institute (2017) to implement the Unity Course for school principals and headmasters; it aimed to provide knowledge on the values of unity that should be translated into the role of leadership in schools. Therefore, the purpose of this study is to determine the role of principal in Malaysian Secondary schools in promoting unity among teachers and the relationship between the two variables. The conceptual framework for this study is as shown in Figure 1

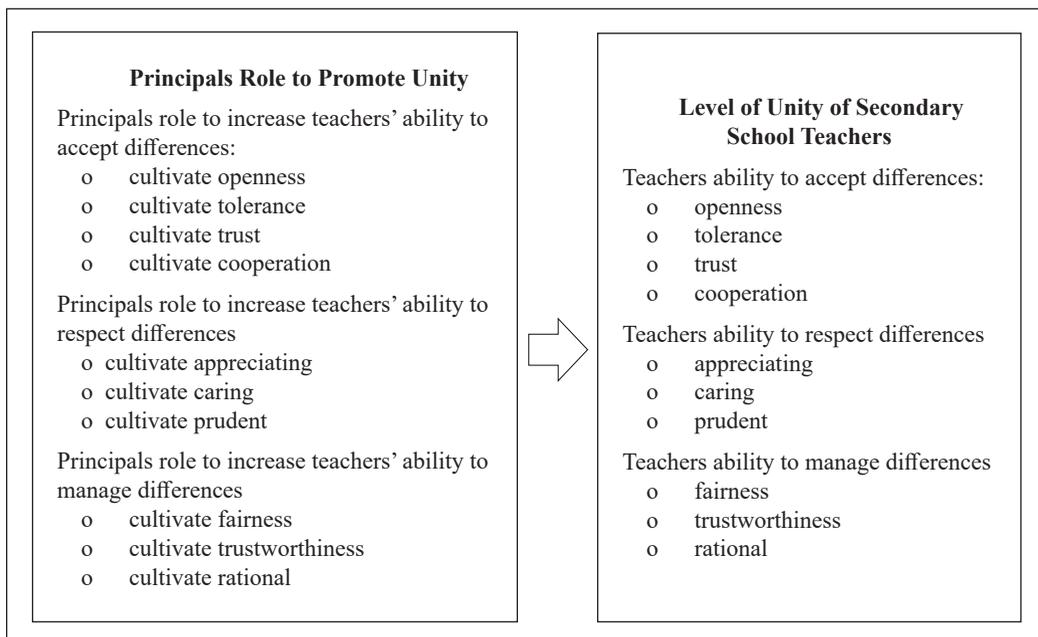


Figure 1. Conceptual framework

The conceptual framework shows that principals' role in promoting unity is an independent variable and is measured based on the ability of the principals' role to increase the ability of the teachers to accept, respect, and manage differences, which also means the role of the principals in inculcating the 10 values of unity among the teachers. Teachers' unity level is a dependent variable that is measured based on their ability to accept, respect, and manage differences, which also means the level of 10 unity values that they possess. The context is secondary school in Malaysia whereas the unit of analysis is the principals' role in promoting unity, the teacher's level of unity and the relationship between them.

The specific objectives of this study are:

1. To determine the level of principals' role in promoting teachers' unity.
2. To determine the level of teachers' unity.
3. To test the relationship between principals' role in promoting unity and teachers' unity.

This study is important that the findings may have theoretical, managerial, practical, and training implications. It provides input to agree or disagree with the unity model, to strengthen unity policy, to improve the focus of principals training regarding their role in promoting unity, and to guide for the unity practices in school. This paper will proceed with the literature review, the methodology, and the findings. Next, the paper concludes with a discussion of the implications, limitations, and directions for further research.

LITERATURE REVIEW

Model of Unity

When a country is at peace and there is no conflict among its races, unity is existing (Malakolunthu & Rengasamy, 2017). Therefore, it can be said that Malaysia has achieved unity, where people live happily without fear. However, there is a view stating that there is still no unity in Malaysia (Shamsul Amri, 2014). He highlighted that what was happening in Malaysia was simply a process of social cohesion in which people of various races tolerated and avoided negative feelings towards each other. These differences of opinions may reflect contrasting definitions.

The Educational Planning and Research Division (EPRD), MoE, issued a clear statement in 2014 on what it considered unity to be. The Unity Model (Figure 1) expresses the idea that unity is the result of teachers and students from multiple races accepting, respecting, and managing their cultural, language, and religious differences. This model was produced during the instrument development process to measure unity among teachers and students. The underlying theories for the development of the Unity Model are the theory of functionalism (Dawi, 2006), the Thrones of Unity and Pure Values (Department of National Unity and National Integration, 2018), and the views of Shamsul Amri (2012) that unity is a relationship where people of different races willing to receive, respect and reconcile (1R: Relationship = 3R: Receive, Respect, Reconcile) with each other. The content of the model and

the theories are referred to in the creation of the instrument to measure the role of principals, whereas the questionnaires with all the main constructs and subconstructs developed by EPRD (MoE) have been used to measure the teachers' unity. Besides, at the early stage of developing the model, several discussions have been done between the MoE and various parties, including the Department of National Unity and Integration (JPNIN), the Institute of Strategic and International Studies (ISIS), INTI International University, Universiti Teknologi Malaysia (UTM), Universiti Pendidikan Sultan Idris (UPSI), Universiti Kebangsaan Malaysia (UKM), Universiti Malaya (UM), Universiti Institut Teknologi Mara (UiTM), Institut Pendidikan Guru Malaysia (IPGM), and Kolej Vocational (KV). The validity and reliability of the model have been statistically tested using the Analysis Moment Structure (AMOS) and Winsteps software and being published in the Malaysian Education Blueprint Annual Report 2014. Since then it becomes a reference by other MoE divisions for strategies to promote unity.

The Concept of Unity

The definition of unity adopted in this model stems from the willingness of multiracial teachers to accept, respect, and manage cultural, religious, and linguistic differences, both in their interactions at school and outside the school. In line with that definition, the model shows that the three main constructs of unity are accept, respect, and manage differences. Each main

construct has its sub-constructs, which are values that need to be nurtured to strengthen unity. All the main constructs and sub-constructs are the main reference for this study. The first construct, which recognizes differences, implies that teachers of different races can be open, tolerant, trusting, and cooperative despite differences in race, culture, religion, and language. Being open is defined as the ability to accept the views, practices, and appearances of other races and to be able to accept these differences in line with the values of Malaysian society. Tolerance is defined as the ability to tolerate the needs and desires of other races, whether in the context of culture, language, religious practices, or other matters, for the sake of racial harmony. Cooperation is described as the ability to support, help, and contribute to people of other races to achieve a goal, whereas trust is described as the ability to trust in the abilities, honesty, and kindness towards people of other races and to have good prejudices.

The second construct that recognizes differences means teachers of different races are prudent, appreciative, and compassionate for others, despite demographic differences. Prudence is described as the ability to be courteous in associating with other races as well as being able to maintain sensitivity between races. Appreciating is the ability to feel proud of the uniqueness of various cultures and languages in Malaysia, to be grateful for the harmony of the country, and to recognize the success achieved by people of other races. Caring is described as the ability to empathize and be sensitive to the

problems or environment of people of other races, always ready to support or solve their problems, and to love other races.

The third construct, which manages differences, means that teachers of different races adopt a trustworthy, fair, and rational attitude despite their differences. Fair means the ability to practice integrity, to make fair decisions as well as to make due judgments in situations where people of other races are also involved. Trust is defined as the ability, to be honest in carrying out responsibilities and doing the best in situations where people of other races are involved, whereas rationale is the ability to think critically based on clear and logical reasons and evidence and to do the right thing (Figure 2).

School Leader and Role in the Unity

As leadership is a process of persuading or influencing others to act and to achieve an organizational goal (Kouzes & Posner, 2003), or about a group of people (leaders and followers) who interact, communicate, and influence each other to accomplish a common objective (Yukl, 2013), there is no doubt that principals play a pivotal role in inculcating unity values and in persuading school community to unite. By sharing and disseminating the goal of unity to all teachers, principals can change the behaviors of the teacher (Hughes et al., 2002). Besides, unity must be a collective aim and must engage all members of the organization (Harris et al., 2013).

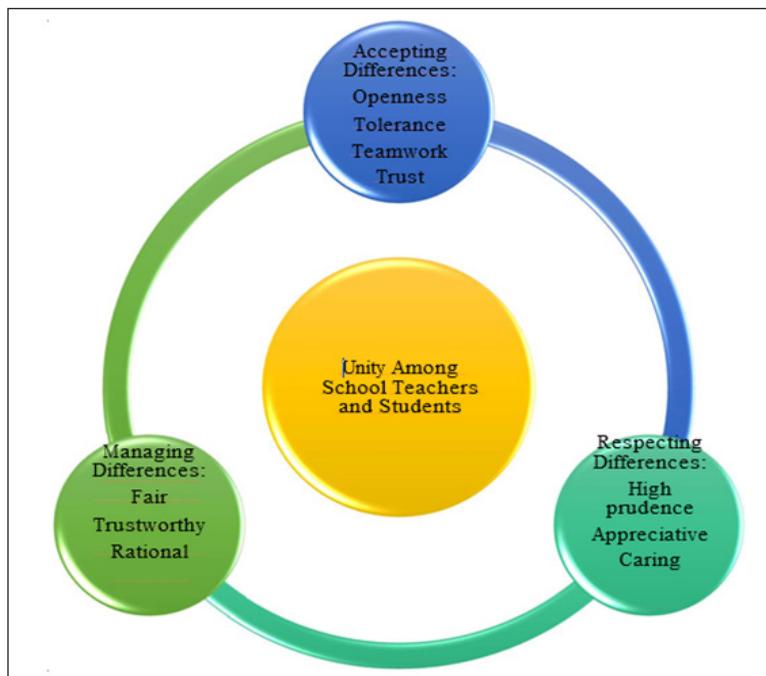


Figure 2. Unity model for school teachers and students
Source: Ministry of Education (2014)

The principal is responsible to understand unity as an aspiration of the system and should also have the knowledge and skills to play their role to promote unity effectively (Mohd Radzi & Bity Salwana, 2020). The principal should understand the values of unity as stated in the Unity Model for School Teachers and Students (Ministry of Education, 2017), possess the values, and instill the values in teachers by showing appropriate actions or play their roles to strengthen unity. The principal needs to clearly understand that the ability to accept, respect, and manage differences will lead to a higher level of unity among teachers.

To date, there is still no way to gauge the extent to which school leaders use their power to influence a person's behavior to the extent that they are willing to cooperate with others to achieve unity at a high level (Jamaliah & Norhasimah, 2006).

Past studies have shown that the spirit of patriotism and unity among the younger generation is gradually deteriorating and eroded (Aziz et al., 2014). Azizan et al. (2004) who stated that the spirit of patriotism among young people was starting to fade due to more global cultural influence factors that attracted young people as opposed to national issues supporting this statement. Besides, people are still vague with the concept and spirit of patriotism (Ghazali & Jalani, 2015). Although studies show that there are those among this group of young people who have an awareness of patriotism, yet it is seasonal (Mahat, 2015). This study would fill the void that there are not many studies involving teachers, including young

people to evaluate the principal's role in promoting unity.

Sabariah (2018) mentioned that many efforts had been made to forge national unity in Malaysia. Besides involving all races in implementing such programs, Sabariah (2018) also suggested that good conduct, integrity, ethics, and honesty (national principles or *Rukun Negara*) were important values that Malaysians should uphold to ensure peace and unity. The degree to which the principal as school leader instills good conduct, including the unity values in teachers, remains questionable until the findings of this study have been presented.

Lee (2014) claimed that unity could be promoted through language, sport, and festivals. In "How to forge National Unity", he expressed the view that after 56 years of independence, there was no excuse for ordinary Malaysians of all races not to be fluent in Bahasa Melayu, the national language. In other words, Lee (2014) believed that mastering Bahasa Melayu could promote unity. The reality that is happening in school today is that some teachers do not even speak Malay in their daily conversations, as well as in school formal events, such as co-curricular activities, assemblies, or even teachers' meetings. Therefore, it is important to carry out a study to determine the principals' action in facing this challenge.

Lee (2014) further explained that sports could bring people of all races under a common platform, and suggested that "open house" culture should be encouraged and celebrated during festivals. He pointed

out that the festive seasons brought a true message of unity to all Malaysians. Celebrating all the festivals has been practiced even at the pre-school level. The PERPADUAN Pre-school ethos towards children's social development is designed to promote a feeling of unity and acceptance among Malaysia's ethnically diverse society. The pre-school teacher acknowledges that it is the responsibility of PERPADUAN Pre-school to instill in its young children, the knowledge of integration and participation in a common national culture that upholds Malaysia's values and identity (Chang et al., 2013).

Religious elements in the spirit of unity are important elements for the preservation of harmony and prosperity among the multi-racial society in Malaysia (Zaizul et al., 2018). Shah Rulbani and Maimun Aqsha (2016) found that there had been a similarity between the Medina Charter and the Malaysian Constitution regarding unity. Both guarantee that there is no restriction to religious roles, whether Muslims or non-Muslims. Non-Muslims are recognized as citizens with the same rights and responsibilities as Muslims. In certain schools, however, there is always a group of teachers who are silently uncomfortable with the religious practice of other races (Bity Salwana et al., 2020). This feeling, even though not clearly shown by the teachers, but if not quickly tackled, can be the reason for a further conflict among multiracial teachers, which indirectly loosens the unity among them.

To promote unity, Yeoh (2019) proposed 4Rs (respect, reciprocity, responsibilities of citizenship, and racial and religious tolerance) and 4Ms (moderation, morality, mechanisms to overcome conflicts, and middle Malaysia standing up for unity and harmony). In his paper "Promoting National Unity and Harmony", Yeoh (2019) argued that the 4Rs and 4Ms were required to overcome conflict. He also emphasized that the values of acceptance, compromise, and tolerance were required to enhance trust and confidence. He added that national harmony could be further boosted if policies were fair, just, and inclusive. Miller (2017) examined unity from a different angle and wrote that unity was an important component of managing any successful organization. Accordingly, she proposed five steps to promote unity: developing a common goal; organizing team-building activities; encouraging open communication; celebrating important events; resolving any issues arising. No one has yet examined how far these five steps to promote unity have been taken by school principals.

On the other hand, a study by Marlina & Norasmah (2018) suggested that the principals should play their role in ensuring activities that could increase cooperation, unity, and tolerance in a more organized and harmonious manner. Again, to date, there is no study on the role of principals in ensuring fair and equal use of school facilities among multiracial teachers, therefore becomes the focus of this study.

Other scholars have discussed the relationship between leadership and unity. For example, Aziz (2019), in her paper “Empowering Unity”, suggested that leaders should strive to use common terms associated with unity to ensure that the objectives of unity and peaceful coexistence were realized. Words such as tolerance, harmony, goodwill, and diversity must be mutually understood and should mean the same for all races. Aziz (2019) had also shown that leaders’ statements and speeches always acted as catalysts for their subordinates to take the necessary action. Therefore, responsible principals would strive to minimize chaos and factors that could destroy the unity of their teachers. They should use their position to promote healthy relationships, harmony, and unity among all races. To date, there is no clear answer to the question of how significant the relationship between principals’ role in promoting unity and the teachers’ unity level, hence the alternative hypothesis that there is a significant relationship between principals’ role and teachers’ unity level has been tested in this study.

METHODS

Survey research design and quantitative approaches were used for this study. Based on data from MoE, the population of secondary school teachers in Malaysia is 179,352. With an average of 20 teachers from a total number of 30 schools across Malaysia, the sample of this study turned out to be 578 teachers. The sample was chosen through a combination of purposive

and stratified sampling (Sabitha, 2005). Purposive sampling was applied to choose schools with multi-racial teachers, whereas stratified sampling was applied to ensure that teachers who were selected to become the sample of each school included all types of race and balanced in number as well.

The questionnaire is a combination of self-development and adaptation of the questionnaire by the EPRD, MoE to measure unity in 2014, 2016, and 2018. The questionnaire contains sections for school, principal, and teacher’s backgrounds, the section to collect data to measure principal role in promoting unity, and the section to collect data to measure the level of unity of secondary school teachers. All items constructed are positively patterned. The items or instruments have also undergone validity and reliability process such as face validity, content validity, as well as construct validity (factor analysis). Items or instrument is said to have a high validity if the items measure what should be measured (Baba 1997; Hair et al. 2006; Konting, 1990; 1994). In developing the questionnaires, theories, models, concepts, and opinions regarding unity have been referred. Unity Model Among School Teachers and Pupils (Educational Planning and Research Division, 2014) is the main reference, whereas the definition of leadership by (Sergiovanni, 1990; Jamaliah & Norashimah, 2005; Yukl, 2013), and the Theory of Functionalism (Dawi, 2002; Brinkerhoff & White 1989), The Foundations of Unity and Pure Values, and the concept of 1R = 3R (Shamsul Amri 2012) also being referred. Construct validity

tests and reliability tests were performed using the Statistical Package for the Social Sciences (SPSS PC 22 for windows) program when pilot data were obtained. As the samples are over 100 respondents, the validity test conducted sets a loading factor value of .55 for items be accepted as valid. The analysis shows that the item achieves a loading factor value between .27 to .92. Therefore, some items that do not reach the set loading factor value are dropped. For the reliability the Cronbach's Alpha value of 0.60 and the Corrected Item-Total Correlation value of 0.25 were used as acceptable values. This result is in line with the views of Konting (1990) and Aron and Aron (2002) that a minimum Cronbach's Alpha value of .60 were acceptable. Based on the pilot data, the Cronbach's Alpha value for the items to measure principal role in promoting unity are between .85 to .97 with the item corrected value - total correlation between .32 to .90. The Cronbach's Alpha value for the items to measure the level of teacher unity are between .85 to .97 with the item corrected value - total correlation between .34 to .83. This finding makes it eligible for questionnaires to be used (Abu Bakar 2001; Hair et al. 2006 & Hilton et al. 2004). The validity and reliability tests were performed again on all actual study data items. The construct validity tests were conducted with the loading factor value set based on the number of samples used (Hair et al. 2006). Since the number of samples is 587, the set value for loading factor is .30 (Hair et al. 2006; Hilton et al. 2004). The analysis showed that loading factors for each item reached acceptable value that is above

.30 (Hair et al. 2006; Hilton et al. 2004). Since all items achieve good loading factor value, the validity of the questionnaire has been strengthened.

Data were analyzed descriptively to produce mean and standard deviation, so the level of principals' role in promoting unity and the level of the teachers' unity can be determined. The interpretation of the mean value was based on Bity Salwana (2009). The mean score of 0.98 to 1.78 indicates a very low level, 1.79 to 2.59 is a low level, 2.60 to 3.40 is a moderate level, 3.41 to 4.21 is a high level, and 4.22 to 5.02 indicates a very high level. Inferential analysis, i.e. Pearson correlation, was performed to produce correlation coefficient (r) value, so the relationship between the variables can be determined (Darusalalam & Hussin, 2018). The strength of the relationship was interpreted according to Jackson (2006), $r = .00$ to $.29$ or $r = -.00$ to $-.29$ means a weak relationship, $r = .30$ to $.69$ or $r = -.30$ to $-.69$ means a medium relationship, whereas $r = .70$ to 1.0 or $r = -.70$ to -1.0 means a strong relationship between the variables.

RESULTS

The Level of Principals' Role in Promoting Teachers' Unity

Overall, principals' role in promoting unity was at a high level with a mean score of 3.85 (SD = .77). The role of increasing teachers' ability to manage differences reached the highest level with a mean score of 3.90 (SD = .82), whereas the role of increasing teachers' ability to accept differences reached the lowest level with a mean score of 3.76 (SD = .90). A high level was

achieved by the principals in instilling 10 unity values among the teachers with mean scores between 3.62 and 4.02 as shown in Table 1.

The Level of Teachers' Unity

The mean score for teachers' unity is 4.37 (SD = .58), meaning that they were at a high level of unity. Teachers also attained a high level for the ability to accept, to manage, and to respect unity with the mean score of 4.30 to 4.42. This research finding also shows that teachers possessed unity values at a high level with the score mean ranging from 4.19 to 4.46. The highest mean score is for the value of "trustworthiness" and the lowest mean score is for the value of "trust" as shown in Table 2.

The Relationship between Principals' Role in Promoting Unity and Teachers' Unity

The third research question is, "Is there any significant relationship between principals' role in promoting unity and teachers' unity?" and the alternative hypothesis, H_{a1} , for the research question is, "There is a significant relationship between the role of principals in promoting unity and teachers' unity". The findings of the analysis as in Table 3 show that the correlation coefficient value, r is 0.20, $P < 0.001$.

This finding indicates that there was a weak positive relationship between the principals' role in promoting unity and the teachers' unity. Therefore, the alternative hypothesis, H_{a1} , that there is a significant relationship between the principals' role in

Table 1
The level of principals' role in promoting teachers' unity

Construct/Sub-construct	Mean	SD	Indicator
The level of principals' role in increasing teachers' ability to accept differences	3.81	.77	High
<i>The level of principals' role in increasing teachers' openness</i>	3.64	.85	High
<i>The level of principals' role in increasing teachers' tolerance</i>	3.62	.83	High
<i>The level of principals' role in increasing teachers' teamwork</i>	4.02	.81	High
<i>The level of principals' role in increasing teachers' trust</i>	3.97	.86	High
The level of principals' role in increasing teachers' ability to respect differences	3.86	.79	High
<i>The level of principals' role in increasing teachers' prudence</i>	3.85	.83	High
<i>The level of principals' role in increasing teachers' appreciation</i>	3.77	.82	High
<i>The level of principals' role in increasing teachers' caring</i>	3.96	.83	High
The level of principals' role in increasing teachers' ability to manage differences	3.90	.82	High
<i>The level of principals' role in increasing teachers' fairness</i>	3.90	.85	High
<i>The level of principals' role in increasing teachers' trustworthiness</i>	3.94	.83	High
<i>The level of principals' role in increasing teachers' rationality</i>	3.87	.83	High
The level of principals' role in promoting unity	3.85	.77	High

*N = 578, SD = Standard Deviation

Table 2
Teachers' unity level

Construct/Sub-construct	Mean	SD	Indicator
The level of teachers' ability to accept differences	4.30	.53	High
<i>The level of teachers' openness</i>	4.35	.60	High
<i>The level of teachers' tolerance</i>	4.36	.56	High
<i>The level of teachers' teamwork</i>	4.31	.60	High
<i>The level of teachers' trust</i>	4.19	.65	High
The level of teachers' ability to respect differences	4.40	.54	High
<i>The level of teachers' prudence</i>	4.42	.59	High
<i>The level of teachers' appreciation</i>	4.42	.59	High
<i>The level of teachers' caring</i>	4.40	.58	High
The level of teachers' ability to manage differences	4.42	.56	High
<i>The level of teachers' fairness</i>	4.39	.61	High
<i>The level of teachers' trustworthiness</i>	4.46	.58	High
<i>The level of teachers' rationality</i>	4.42	.58	High
The level of teachers' unity	4.37	.53	High

*N = 578, SD = Standard Deviation

Table 3
The relationship between principals' role in promoting unity with teachers' unity

		Teachers' unity
Principals' role in promoting unity	Pearson Correlation	.20**
	Sig. (2-tailed)	.000

P<0.001(2-tailed), N = 350

promoting unity and the teachers' unity was rejected. Even if the relationship is weak, this finding means that if principals increase their role in promoting unity, teachers' unity will also increase, even though the possibility of increasing is low.

DISCUSSIONS AND IMPLICATIONS

The results of the study show that principals have not yet played a key role in promoting unity. Principals' roles to promote unity and to increase teachers' ability to accept, respect, and manage differences have

not yet been fulfilled. What was done by principals was against the unity theory (MoE) stating that to unite, the unity values and ability to accept, respect, and manage differences must be instilled in the school community. This study also shows that the principals paid less attention to increasing the teacher's ability to accept differences and lesser attention to inculcate tolerance in teachers. This statement also fortifies the suggestion by Bity Salwana et al. (2009) that the principals must have the competency to manage human resources and, in this aspect, teachers' unity. Principals should take note

of Hallinger's (2011) comments that as a general role, principals are more interested in academic progress, which may lead to human resource management issues being ignored.

The Malaysian Education Blueprint (MEB 2013-2025), which emphasizes promoting unity, should also serve as a reminder to principals to give equal attention to human relations. Principals must support MoE's effort to promote unity through the education system. Values such as openness, tolerance, cooperation (teamwork), and trust must be instilled. The Ministry has added a teamwork element in schools as a key component to establish a harmonious and conducive environment, which added support from the local communities (Educational Planning and Research Division, 2018). To ensure that the vision is realized, principals must equip themselves with the required skills and knowledge to unlock their potential in promoting unity as suggested by Bity Salwana (2009). Moreover, the ability of the principals in promoting unity would effectively establish a haven of unity among Malaysians.

The results of this study also do not support the findings of previous studies, such as the EPRD (Educational Planning and Research Division, 2018), stating that the teachers' unity level was only at a moderate level. The difference in the findings may be caused by the situation at the time the data collection was carried out. MoE's study in 2018 was done at the time of Malaysia's 14th general election. But

the degree to which this statement is true still needs to be studied. The results that teachers attained a high level for the main constructs also did not run parallel to the previous results of EPRD (MoE), which shows that teachers attained a low level or a moderate level for the ability to accept, to respect, and to manage differences. The result shows that teachers attained a high level for the unity values, including openness, tolerance, teamwork, and trust, once again did not support the results from the previous study done by EPRD (MoE). Besides the situation during the data collection process, the methods used for these two studies may be additional reasons for different results. Further study will have to go into detail about the factors that caused the difference. However, the result of this study supports Yeoh's (2019) 4Rs and 4Ms theory of respect, reciprocity, responsibilities, tolerance, moderation, morality, mechanisms to overcome conflicts, and middle Malaysia standing up for unity and harmony as elements that can promote national unity and harmony. As Yeoh (2019) also suggested, the unity level is high due to a high level of acceptance, compromise, and tolerance, trust, confidence, fairness, justness, and inclusivity among multi-racial teachers. These findings reciprocate with Kubaev's (2020) five steps to promote unity developing a common goal; organizing team-building activities; encouraging open communication; celebrating important events and resolving any issues that may arise.

The principals' role to promote unity efficiently can also be the reason for teachers to attain a high level of unity values, for the ability to accept, to respect, and to manage differences and a high level of unity. Therefore, this finding also supports unity theory, which states that unity is the output, whereas teachers possess the values of unity and have the ability to accept, to respect, and to manage differences. The fact that teachers possess high-level unity values is also against past studies, which indicate that unity among the younger generation is increasingly deteriorating and eroding (Aziz et al., 2014) and that the spirit of patriotism among young people is starting to fade due to global cultural influence factors that attract young people as opposed to national issues. Sabariah's (2018) opinion, suggested that good conduct, integrity, ethics, and honesty (national principles, or *Rukun Negara*) are important values that Malaysians should uphold in order to ensure peace and unity. The result also runs parallel to that of Lee (2014), that unity can be promoted through language, sport, and festivals. All researchers suggested that the "open house" culture during the festival should be encouraged. They pointed out that the festive seasons has brought a true message of unity to all Malaysians. This study found that more than 84% of the teachers joined festival celebrations of other races, whereas more than 80% invited other races to their celebrations. Besides, more than 95% of the teachers appreciate the cultural diversity among various races.

The importance of Bahasa Melayu as a *Bahasa perpaduan* has been proven by this study. Therefore, Lee (2014) statement that unity could be promoted by mastering Bahasa Melayu is very true without a doubt. This study found that more than 94% of teachers agreed that Bahasa Melayu should be used in daily communication, while everyone must open their minds towards the diversity of mother tongues, languages, and religions (Zaizul et al., 2018). Last but not least, this study agrees with the statement that school management and administration have an important role in enhancing unity (Kuznetsova & Matytcina, 2018). Words such as tolerance, harmony, goodwill, and diversity must be mutually understood and should mean the same to all races.

Theory Implication

The findings of this study have implications for the theory of unity, namely the Unity Model for Teachers and Students (Rahim et al., 2019). The theory has listed three main constructs of unity that is the ability to accept differences, the ability to respect differences, and the ability to manage differences. This study not only confirms the main constructs, but also the subconstructs, namely the 10 unity values (openness, tolerance, cooperation, trust, prudence, appreciative, fairness, trustworthiness, and caring).

Managerial and Practical Implication

Schools are places where not only education for intellectual academics take place, but also where positive values, including unity

values, are inculcated. Principals can refer to the findings of this study to trace their strengths and weaknesses in promoting unity. The findings of this study show that the principals might be successful in promoting unity by increasing teachers' ability to accept, respect, and manage differences. Principals must understand the unity values and must inculcate the values among the teachers and all school communities. Principals can also collaborate with the community to manage unity better and to improve the school environment. Responsibility to promote unity also requires support and assistance, not only by school staff, but also from the District Education Office (PPD), the State Education Department (JPN), and the MoE. This would facilitate and help principals to face any challenges, difficulties, or obstacles in managing unity.

Training Implication

As the ability to promote unity is not pegged at a very high level, principals must undergo training that focuses on sharing and giving ideas on how to improve teacher's ability in accepting, respecting, and managing differences. This suggests that the training syllabus should improve principals' knowledge and skills to increase their ability to promote unity. Principals should strive hard to equip themselves with the necessary competencies. Therefore, training programs are necessary to acquire appropriate knowledge and skills. The MoE through IAB, for example, needs to plan training and courses to further improve

unity management roles among principals. This is also to ensure that MoE can provide educational organizations with efficient and effective officers who can perform their responsibilities. Several aspects need to be considered when preparing training programs or courses for principals. Among them are those aspects that can improve principals' knowledge and skills to deal with problematic students and teachers. Psychological knowledge can also be learned to not rely entirely on school counselors when dealing with students' disciplinary problems. Principals should also be proactive and take the initiative to attend courses and programs held by MoE or other parties. Information on training programs or courses can be searched online. IAB, an institution that trains school managers, is recommended to provide training that is compulsory for principals to gain knowledge and skills to better manage their human resources. MoE also requires training courses that promote open-mindedness and positivity in principals toward lifelong learning, because from time to time, knowledge and skills need to be improved to suit current and future needs.

Policy Implication

One of the main goals of the Malaysian Education Blueprint (MEB) 2013-2025 is that unity can be promoted. This is clearly expressed by the goals of the education system aspirations: accessibility, quality, equity, unity, and efficiency. The Blueprint also listed several initiatives related to principals to ensure that schools are

managed by leaders with high competencies. It is therefore important to monitor the policy implementation at the school level. The findings of this study also recommend that the Malaysian Government needs to continue its policy towards unity.

Social Balance Implication

By improving unity among the school communities, principals are also contributing to the social balance among nations. A peaceful and harmonious environment would lead to a decrease in crime rates. The country's economy would also increase due to the increase in the amount of domestic and foreign investments. It is a national responsibility to maintain the safety, harmony, and unity of a country, and principals and teachers must also play a pivotal role in this issue.

LIMITATIONS AND RECOMMENDATIONS

The limitation of this study is the evaluation on principal's role to promote unity and self-evaluation to determine unity done only by teachers. The findings of low level for principals' role to cultivate some of the value of unity and the low unity level of teachers cannot be explained by this study. Besides, analysis of both variables based on demographic factors was also not implemented. Therefore, for the future research, it is recommended that mixed method design is applied whereas the analysis on the variables based on the demography factors should be done. Only then, the findings can be more meaningful.

CONCLUSIONS

This paper contributes to the factors that may increase the teacher's unity. This research's conceptual framework and findings from Malaysian universities have confirmed that principals play an important role in helping to attain a better environment in the country. This study also affirms that unity values must be strengthened to improve unity. Educational management policies, managerial staff, and training must focus on improving the principal's role to promote unity. Challenges and issues arising from time to time should be handled by those who are capable of planning, executing, overseeing, and improving unity through the participation of all members of the school community. The study would add to the body of knowledge on how leaders in Malaysia, including educational leaders of multiple institutions, implement education by ensuring that no students of all races are left behind. Hence, studying the principals' role in promoting unity should pose as a sincere and everlasting effort to secure a safe and harmonious country for a better life in the future.

ACKNOWLEDGEMENTS

This research was partly funded by Universiti Kebangsaan Malaysia (Project No: GG-2019-041, Project No: GGPM-2018-071 and Project No: PP-FPEND-2020).

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