



Pertanika Journal of  
**SOCIAL SCIENCES  
& HUMANITIES**

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PERTANIKA  
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# PERTANIKA JOURNAL OF SOCIAL SCIENCES & HUMANITIES

## About the Journal

### Overview

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

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

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

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

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

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# Foreword

Welcome to the second issue of 2023 for the *Pertanika Journal of Social Sciences and Humanities* (PJSSH)!

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

This issue contains 22 articles; four review articles, two case studies and the rest are regular articles. The authors of these articles come from different countries namely India, Indonesia, Malaysia, Nigeria, Pakistan, Philippines, South Africa, Ukraine and Thailand.

Iryna Simkova and colleagues provide interesting research to analyse the results of implementing the transdisciplinary approach in teaching English professional spoken interaction to mediators at the universities of Ukraine within emergency remote teaching. The study was conducted with complex empirical and theoretical scientific research methods. According to the study, applying the transdisciplinary approach in teaching ESP to mediators corresponds to a new pedagogical perspective, which future mediators within emergency remote teaching can use. Further details of the study can be found on page 491.

A research article, “An Analysis on Youth Drug Abuse: Protective and Risk Factors in High-Risk Area,” sought to identify protective factors that successfully protect youth in high-risk locations and to examine the presence of risk factors in that particular community. According to the research, youth living in hot spot areas have internal and external protective factors. These include things like religious knowledge and practising religion, positive peer influences, and understanding the dangers of drug abuse. The lack of effective coping skills and negative peer influence are some of the reasons that trap youths into abusing harmful drugs. The detailed information of this article is presented on page 585.

Muhammad Safwan Ibrahim and colleagues use a convenience sampling approach to explore Malaysian foreign workers’ perspectives on their rights and welfare. The study discovers that forced labour indicators were present among Malaysian foreign workers, suggesting their welfare is not effectively protected. Following these findings, effective policy and legal intervention strategies can be developed to reinforce the rights and welfare of foreign workers in Malaysia. Details of this study are available on page 765.

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

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

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

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

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*Review Article*

## **Humanistic *Pesantren*: Systematic Literature Review and Bibliometric Visualization Analysis on Character, Moral, and Ethical Values**

**Dwi Puspitarini<sup>1\*</sup>, I Nyoman Sudana Degeng<sup>1</sup>, Henry Praherdhiono<sup>1</sup> and Nunung Suryati<sup>2</sup>**

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### **ABSTRACT**

This research presents a systematic literature review and bibliometric analysis of the studies on character education in Indonesian Islamic boarding schools from Scopus datasets from 2011 to 2020. With a determined flow diagram and interactive Vosviewer visualization, the urgent goals are to describe the important elements of the bibliography, i.e., publication trends, the collaboration of the authors (co-authorship), and the terms used in the title and abstract (co-occurrence). It also synthesizes applied methods and classifies noble moral values. The summary of the findings are (1) networks visualization shows detailed links for mapping the status of topics that have or have not been widely explored or discussed, (2) many names are grouped, which means that they are working together, (3) the co-occurrence visualization shows the most dominant keyword is “Islamic boarding school,” (4) the instilling methods are classified as role models (exemplary), habituation, media-

assisted, and integrated daily activities, and (5) the humanitarian values are classified as religious, friendliness, communication, environmental and social awareness, also responsibility. This SLR and BA’s major contribution is an extensive summary of the systematic classification and mapping of character, moral, and ethical values, and methods, as well as of the relevant literature. The growth of these developing topics is a recommendation for researchers

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to integrate methods in multi-disciplines and for achieving typical positive values. Finally, this review provides ideas and recommendations for determining the direction of further research. By examining connected or disconnected networks, readers may independently research using online mapping to generate fresh study ideas.

*Keywords:* Bibliometric, humanist character-moral ethic values, Islamic boarding school, systematic literature review, VV Online

## INTRODUCTION

In essence, the study of value education has always been important and necessary throughout the ages (Berkowitz, 2011; Singh, 2019). After a decade of character education programs in Indonesia, the discussion of human character, morals, *akhlaq*, and ethics remains current, continuous (a never-ending process), and an important research issue in the world of education (Anam et al., 2019; Baehaqi & Murdiono, 2020; Kamaruddin, 2012; Pohan & Malik, 2018). Substantially, education aims to grow confident and compassionate students, contribute to the environment, and morally serve society as citizens (Piccolo et al., 2022). Proper education facilitates the achievement of intelligence and, more importantly, the acquisition of intelligence coupled with character (Y. Xu et al., 2021). Supporting this, Albert Einstein defined that the essential element in instruction is the students' character maturity (Widodo et al., 2020). Thus, education aims to develop a

generation capable of self-actualization and maintain positive behavior by humanizing humans wherever they are, whether in the family, school, or community.

Furthermore, humanist values may be formed and nurtured from an early age through continuous education. As stated by Dewantara (1977), "instilling noble character (values of national character) in children at school is obligatory" (p. 25). The recent dynamics of technology and information require the world of education to be consistent in realizing a better human civilization by preparing the next generation with awareness and good moral character. Internalizing moral and ethical education is the first step in preparing a generation of character. Character education is a deliberate effort to educate, understand, and help students carry out ethical values and have noble personalities (Lickona, 1997).

In Indonesia, the law on the National Education System, Law No. 20 of 2003, confirms the functions and objectives of national education, namely increasing faith and piety and fostering the noble character of students. According to article 3 of Law No. 20 of 2003, national education functions to develop capabilities and shape the character and civilization of a dignified nation in the context of educating the nation's life, aiming at developing the potential of students to become human beings who believe and fear God Almighty, have a noble character, are healthy, knowledgeable, capable, creative, independent, and become democratic and responsible citizens. This definition shows that education's function is to develop

cognitive abilities and, more importantly, build a society with noble character and dignity (Munfarida, 2017; Raharjo, 2010; Tyas et al., 2020). Hence, alternative efforts have been made to prepare the next generation with good moral character, whether formal, informal, or non-formal (Wijayanti, 2014).

Next, encouraging all lines in education to prepare the next generation to behave and be commendable towards themselves and their environment is an obligation, including *pesantren* (Islamic boarding schools) as non-formal education. Recently, Islamic boarding schools have become an early alternative educational program of choice for parents. Islamic boarding schools are responsible for providing their students (*santri*) with human values through character, moral, and ethical education. The success of values education in *pesantren* is proven in several articles, which state that character and moral education in Islamic boarding schools are more effective and efficient in producing a generation of noble characters (Nofiaturrahmah, 2014). An Islamic boarding school educates *santri* to internalize education in 24 hours. These institutions have been trusted to provide religious knowledge and formal education. The continuation of sustainable character, moral, and ethical education is required so that research at this institution has been interesting and has the potential to grow continually.

For their exclusive nature, Indonesian Islamic boarding schools are thought-provoking as relevant research issues

in character education. Indeed, various studies on character education have been carried out in Islamic boarding schools in Indonesia, including F. Arifin et al. (2022), Delvi and Rochmat (2019), Manshuruddin et al. (2019), Noorjutsiatini et al. (2022) and Raharjo (2010). Primarily, innovation is always needed to develop education at the *pesantren* without sacrificing noble values (Zuhri, 2016). Therefore, an evaluation or review of previous studies on humanist education values is also required.

Instilling all positive values in *pesantren* requires some effort with continuous research and reviews. The systematic literature review (SLR) is one method of conducting reviews systematically. It is carried out by identifying, assessing, and interpreting all findings on a particular research topic to answer the research questions (Bettany-Saltikov, 2010; Hariyati, 2010; Nightingale, 2009; Petticrew & Roberts, 2005; Van Klaveren & De Wolf, 2015). A systematic literature review is a structured and planned way or method to identify, assess, and interpret all findings in evidence-based research on a particular topic in order to answer research questions that have been previously determined (Kitchenham et al., 2009; Okoli & Schabram, 2010). Another definition of systematic review is a research method that summarizes the results of primary research to present a more comprehensive and balanced evaluation of facts using a reliable, rigorous (precise and accurate) methodology and can be audited (Chrastina, 2018; Morrell, 2016). The systematic review is a way to summarize

the facts of the research conducted with certain peer-reviewed protocols so that they can be useful for submitting further research agendas (Jones et al., 2017). Single studies selected as data for systematic reviews are called primary studies, while systematic reviews are a form of secondary research (Brereton et al., 2007).

Many studies have combined these two methods, SLR and BA. Potentially, research on this bibliography's systematic summary, synthesis, and analysis could aid future studies to investigate the relevant issues. Those are in green warehousing (Bartolini et al., 2019), supply chain finance (X. Xu et al., 2018), sustainable global sourcing (Jia & Jiang, 2018), and the conducted method (Linnenluecke et al., 2020). However, very few studies focus on systematic literature review and bibliometric analysis of character education, morals, and ethical values in Islamic boarding schools. Thus, this study focuses on summarizing and visualizing studies related to Islamic studies' humanist values of character education, morals, and

ethics. The systematic review is supported by bibliometric visualization analysis (BA), a quantitative technique for analyzing and visualizing bibliographical knowledge on the utilization of journals or articles within helpful patterns and mappings (Huang et al., 2020; Perianes-Rodriguez et al., 2016; Royani et al., 2019; Zupic & Čater, 2015). Table 1 shows the questions addressed in this study.

Furthermore, the discussion of moral education in Islamic boarding schools is described comprehensively. The discussion begins with an explanation of the importance of synthesizing and visualizing, followed by stating the formulation of the problem that has been determined, applying the method, and conducting a systematic search, analysis, and discussion of data. Then, conclusions and recommendations from the findings are stated. This study is urgently important to help future researchers decide the extent of their ideas and the direction of their research challenges (themes).

Table 1

*Research questions*

RQs	Research questions	Type of Analysis
RQ1	What has been the trending research on character education, morals, and ethics over the past decade?	Analysis of the Scopus database
RQ2	Who are the authors who conducted the research and collaborated?	Co-authorship analysis
RQ3	What are key research areas related to character, morals, and ethical education?	Co-occurrence analysis
RQ4	To what extent did the studies explain the methods of character, morals, and ethics internalization?	Content Analysis (Full-Text Reading)
RQ5	To what extent did the studies of character, moral, and ethical education discuss the values instilled in <i>santritis</i> ?	Content Analysis (Full-Text Reading)

## MATERIALS AND METHOD

This study uses a systematic literature review and bibliometric analysis (Bartolini et al., 2019; Huang et al., 2020; Jia & Jiang, 2018; Linnenluecke et al., 2020; X. Xu et al., 2018). The protocol stages used as the basis or guidelines are the PRISMA Protocol, consisting of identification, screening, eligibility, and inclusion (Liberati et al., 2009; Page et al., 2021; Shamseer et al., 2015). BA procedures start from determining research objectives, formulating research questions, and formulating search strategies to collect datasets (Donthu et al., 2021; Ellegaard, 2018; Huang et al., 2020). This study combined the systematic stages of SLR and BA because they have similar procedures starting from determining research objectives, formulating research questions, developing search strategies for data collection, and conducting analysis. The whole series of activities in this review are carried out systematically, including the stage of searching the dataset.

### Systematic Literature Search

The entire series of activities during this article review was dispensed systematically. The flow actions established within the design (planning section) were followed to guide the research implementation (Brereton et al., 2007; Cooper et al., 2018; Kitchenham et al., 2009). A decade-long dataset was considered sufficient to track research development in this field. The Scopus dataset has wide coverage, clean,

reliable, and comprehensive data that meet the recognized standards for good publisher ratings for analysis and research (Baas et al., 2020).

The dataset collection stage was chronologically started by (1) opening Scopus.com; (2) writing down the search keywords as listed in Table 2 in the searching areas of title, abstract, and keywords. The keywords used are: *character, character education, character values, moral education, moral values, ethics, ethical values, akhlaq, akhlak, moral guidance, attitude, Islamic boarding house, Islamic boarding school, madrasah, santri*, (3) then, states the area boundaries of document type (articles and reviews), and (4) states the years (between 2011 and 2020), (5) After clicking search, the data obtained were 89 articles and reviews.

The data was collected in CSV format and stored in the reference manager, Mendeley. For later BA analysis, data in CSV format must be visualized using Vosviewer software. Meanwhile, the next process is screening or document extraction by applying the inclusion and exclusion criteria set in the previous identification stage.

### Inclusion and Exclusion Criteria

At this stage, all articles and reviews were extracted (screened) to determine the data suitable for SLR analysis. The selection criteria are presented in Table 3.

Table 2  
*The Scopus syntax for SLR and BA*

Syntax / Search query	Searching area
( TITLE-ABS-KEY ( character* OR "character education" OR "character value*" OR "moral education" OR "moral value*" OR ethic* OR "ethical value*" OR akhlaq OR akhlak OR "moral guid*" OR attitude* OR "Islamic education value*" ) AND TITLE-ABS-KEY ( pesantren OR "Islamic boarding house" OR "Islamic boarding school" OR madrasah OR santri ) ) AND ( LIMIT-TO ( PUBYEAR , 2020 ) OR LIMIT-TO ( PUBYEAR , 2019 ) OR LIMIT-TO ( PUBYEAR , 2018 ) OR LIMIT-TO ( PUBYEAR , 2017 ) OR LIMIT-TO ( PUBYEAR , 2016 ) OR LIMIT-TO ( PUBYEAR , 2015 ) OR LIMIT-TO ( PUBYEAR , 2014 ) OR LIMIT-TO ( PUBYEAR , 2013 ) OR LIMIT-TO ( PUBYEAR , 2012 ) OR LIMIT-TO ( PUBYEAR , 2011 ) ) AND ( LIMIT-TO ( DOCTYPE , "ar" ) OR LIMIT-TO ( DOCTYPE , "re" ) )	title, abstract, dan keyword,

Table 3  
*Exclusion and inclusion criteria*

No.	Exclude Criteria	Excluded Result
1.	Articles are written in other than English.	1 article in Indonesian, 2 articles in Arabic
2.	Articles that are out of context (there are no keywords in the title, abstract, or keywords)	8 articles about (history, NU, and Ramayana, among others)
3.	Type of publication review (other than articles)	4 reviews
4.	Duplication	1 duplicated article
No.	Include Criteria	Excluded Result
1.	Full-text articles about values in Islamic boarding schools, not colleges or high schools.	2 articles in colleges 2 articles in public schools
2.	Full-text articles discuss the values and methods of character, moral, and ethical education in the Indonesian Islamic boarding school.	10 articles: Turkey (2), British, Russia (2), Bangladesh (3), Istanbul, Morocco
3.	The articles mention the values and methods of inculcating character, morals, and ethical values in Islamic boarding schools.	24 out of humanistic values and their methods: management, module, development, gender, jurisprudence, among others

Data extraction with inclusion criteria resulted in 36 articles. The articles were then assessed for eligibility.

### Quality Assessment for Eligibility

The data collected will be evaluated using the following quality assessment criteria questions:

a. Was the paper published in a Scopus-indexed journal between 2011 and 2020?

b. Is the journal article inclusive of character education concepts assimilated in Islamic boarding schools?

c. Is there anything in the journal article about internalizing the value of character education in Islamic boarding schools?

Then, for each of the questions above, each article will be marked in the table with an answer as follows: - Y= yes (if it followed the questions), and

- N= no (if it did not follow the questions).

There are 36 articles with the Y dominant answers as the final data.

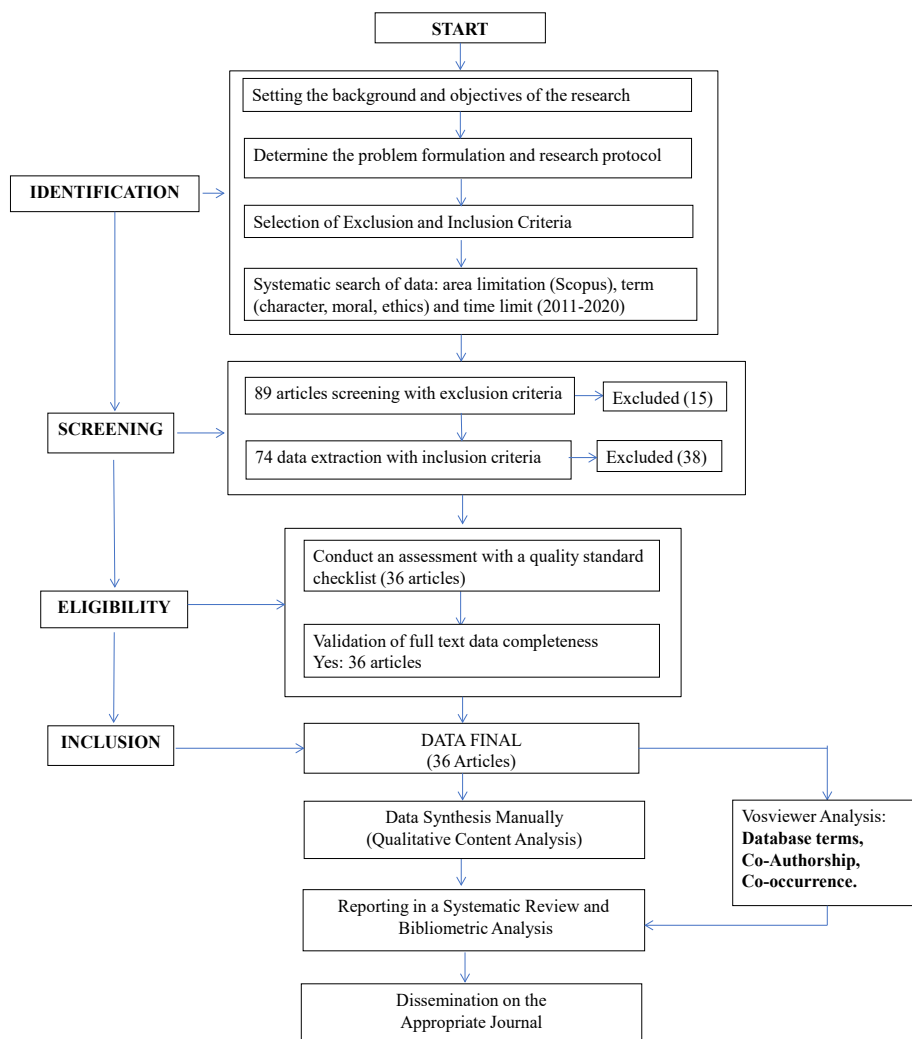


Figure 1. The PRISMA flow diagram of the systematic literature review combining bibliometric

The flow diagram in Figure 1 performs the detailed summary process of SLR and BA in the following steps: (1) In identification, first, the objectives are stated. Then, it is important to develop the review protocol. It continued to define the conceptual boundaries of the study. The following steps are systematic data searching of Scopus, the journal articles from 2011 to 2020, and in Indonesian pesantren, (2) in screening, 89 articles are extracted using the exclusion criteria. Next, 15 articles are excluded, and 74 articles continue to the next level; then, 38 articles are excluded in the inclusion criteria, (3) in eligibility, the articles should be validated and completed, and (4) finally, inclusion fixed 36 articles in the full-text were eligible for the bibliometric analysis using Vosviewer, and the content was reviewed manually. Next, the important phases are reporting and disseminating the results.

### Analysis Software (Tools)

VOSviewer Online version 1.6.17 (*Visualization of Similarities-viewer*) was used to map and analyze the data, which can be downloaded from <http://www.vosviewer.com>. Primarily, this software was developed by the University of Leiden, CWTS (Centre for Science and Technology Studies; Waltman et al., 2010). VV online is a useful software for visualizing bibliometric networks or metadata within the realm of bibliography, namely titles, authors, journals, abstracts, and keywords. This latest version of the online VV is equipped with a share menu that helps readers explore the visualization results independently and interactively.

## RESULTS AND DISCUSSIONS

In extracting data, the inclusion step selects 36 articles from a total of 74 for full-text analysis. The following data analysis presents visualizations and descriptions based on the order of the determined research questions.

### RQ1. Publication Trends in the Time of the Scopus Database

The development of the final document of 36 articles is shown in Table 4.

Table 4

*The number of articles published each year*

Year	Document number	Percentage
2012	1	2.8
2014	1	2.8
2015	1	2.8
2016	3	8.4
2017	2	5.5
2018	7	19.4
2019	11	30.5
2020	10	27.8
Total	36	100

It shows the number of Scopus-indexed documents on character, moral, and ethical education in Islamic boarding schools. The number continues to increase from year to year. A slight decrease was observed in 2017, but research related to the character of students still exists. From 2018 to 2020, the number of articles continued to increase. The highest number of documents was found in 2019 ( $n = 11$ ), while 2012 and 2015 have the least amount of paperwork ( $n =$

1). The increasing number of research until 2020 indicates that research on character, moral, and ethical education in Islamic boarding schools remains relevant and has the potential to be developed. Then, 36 articles were analyzed using VV.

The network visualization is used to explore research on character education, what is new, and what has been done before. In network visualization, interrelated terms are presented in previous studies. The visualization consists of 12 clusters, 196 items, 1790 links, and 8442 total link strength. The different colors in Figure 2 saw

the clusters of the terms—the most dominant note in the biggest node. The word ‘Islam’ is linked with the ‘character education model’ and literature. VV online helps the readers to observe the visualization. Online visualization helps readers may do an independent study to discover fresh research concepts by examining connected or disconnected networks. Researchers can use this map to consider new ideas, with existing terms or those not yet in the network. Future researchers are advised to select themes with non-networked keywords considering these results.

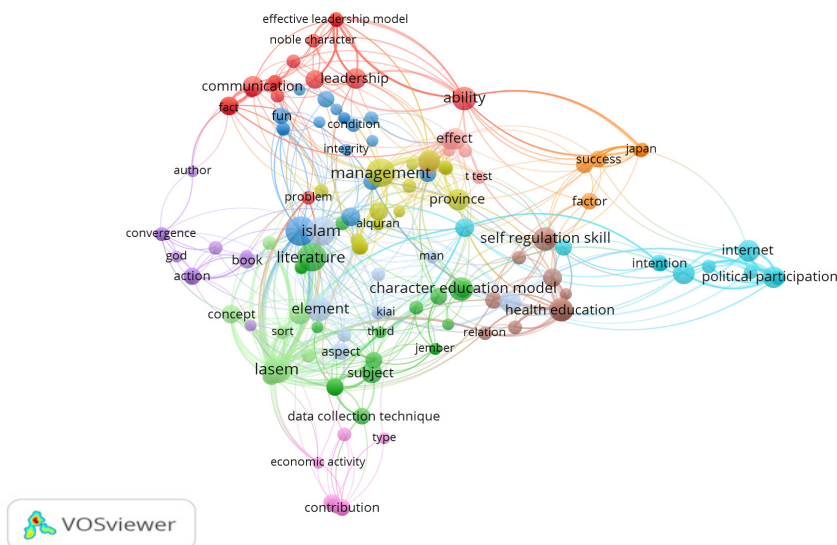


Figure 2. The visualization based on the text data

Source: <https://tinyurl.com/yxar4bjn>

## RQ2. Co-Authorship Visualization Analysis

The 36 articles were analyzed using VV. If the number suggested by Vosviewer were enlarged, fewer would meet the criteria and vice versa. Therefore, researchers

must determine the number of the author's minimum works to be displayed. Vosviewer also asks a question on the authors' connection before visualizing the dataset on the map, with a “Yes or No” answer. “Yes” means that only the author has a

relationship or connection (network) with each other, while “no” means that all authors do not have a network with each other. In the visualization, the big circle indicates that the author is a top author. In this study, the researcher chose “No.” Then click “Finish.” Finally, VV features a network visualization for co-authorship analysis, as illustrated in Figure 3.

The Web address above is the visualization network sharing available on the latest version of VV. Hereby, the visualization may be accessed by readers interactively. The visualization shows the names of authors networked with at least one document. The circles (nodes) show authors' names and connections, illustrating clusters or groups of writers networking. There are 96 authors, 36 clusters, and 113

links displayed in the visualization with at least one work. The size of the circle shows the focus or center of each cluster.

The authors with the highest citations are Izfanna and Hisyam, with 17 citations. If the number suggested by Vosviewer is enlarged, fewer will meet the criteria and vice versa. Therefore, researchers must determine the number of the author's minimum works to be displayed. Several connected names in a cluster indicate that they are collaborating. Thus, the opportunities to collaborate with many writers scattered on the map and have not yet been networked widely open. When many names are clustered together, it indicates that they are cooperating. As a result, several writing opportunities are distributed globally and have not yet established a sizable network.

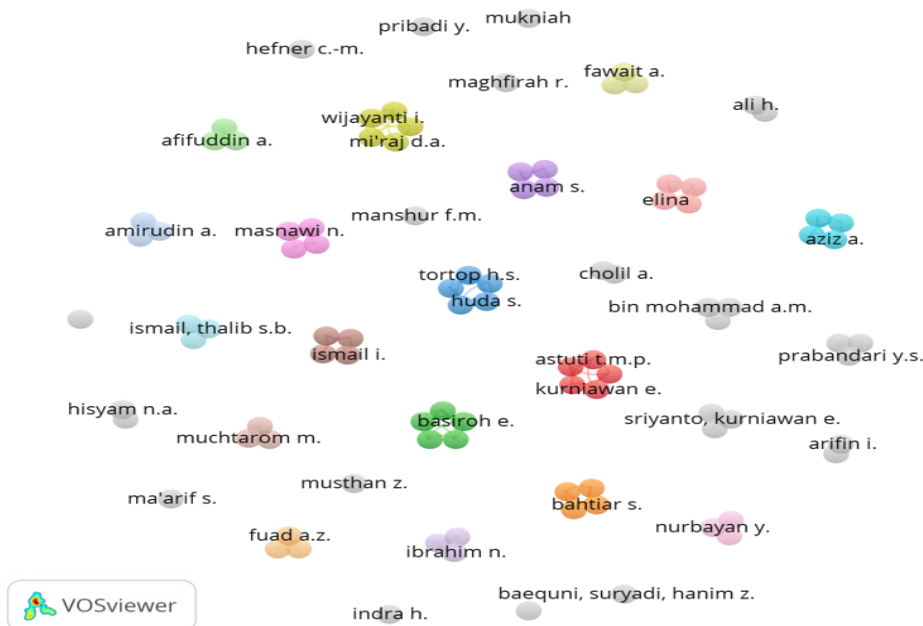


Figure 3. Co-authorship network visualization

Source: <https://tinyurl.com/yya7rfgz>

### RQ3. Co-Occurrence: Author Keyword Analysis

Figure 4 shows the result of a co-occurrences analysis on the keywords used in the studies.

The 123 keywords in this visualization meet the requirement to appear at least once in the Scopus dataset from 2011–2020. In this analysis, the author chose the keyword to appear at least once because the number of articles in the dataset is not large so all keywords can be seen in the visualization. The more keywords that appear with no network, the more they represent wider new research ideas. Again, online mapping allows readers to explore independently to find new research ideas by looking at connected or non-connected networks.

The co-occurrence visualization in Figure 5 suggests that the most dominant keyword is “Islamic boarding school.” The keywords “pesantren” are zoomed in and look networked or related to other keywords, namely diffusion of innovation, local wisdom, human values, Islamic law, character, *santri*, and cultural transformation. This finding indicates that these keywords have been written together with others in one of the articles. The keywords “*Islamic boarding school*,” “*health education*,” and “*attitude*” are related. Based on this analysis, future researchers are suggested to choose topics with keywords that have not been networked, such as the word “*eco-pesantren*,” which has not been

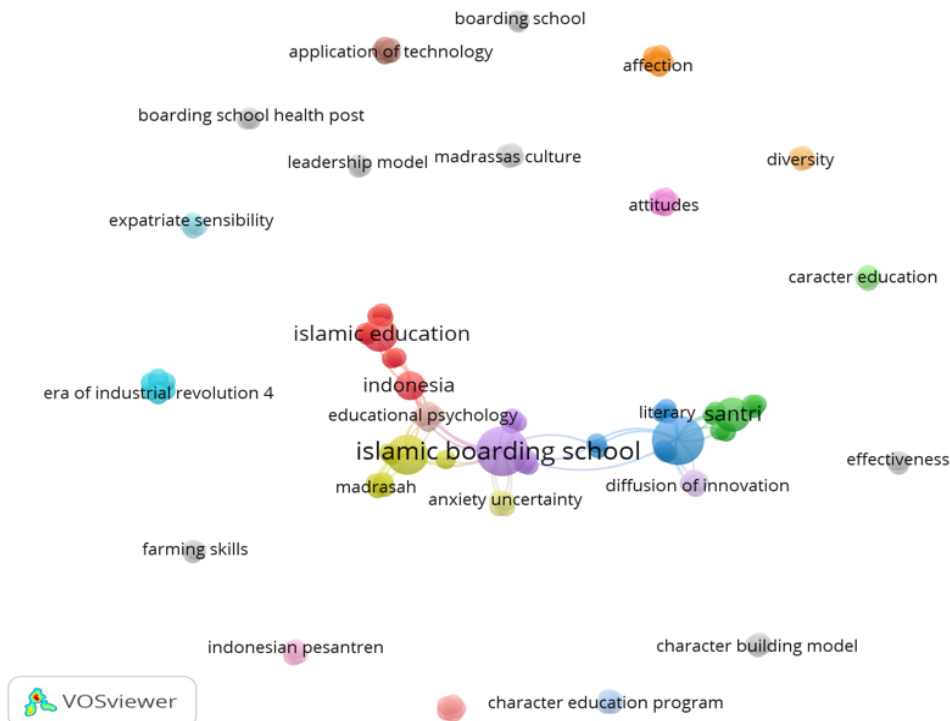


Figure 4. Co-occurrence visualization author keywords

Source: <https://tinyurl.com/y4aowy7g>

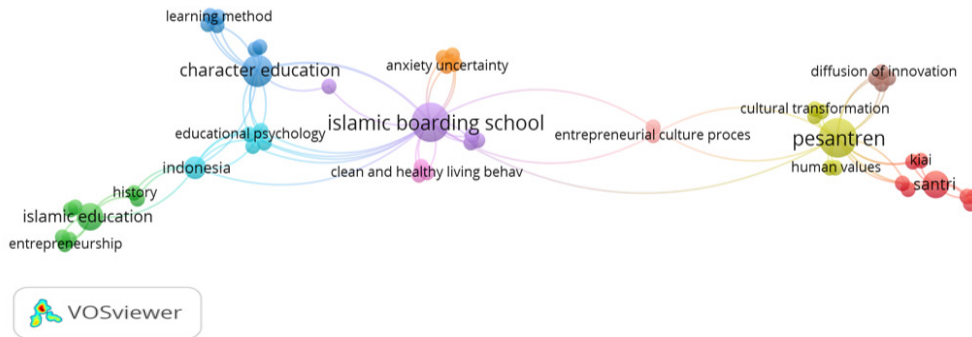


Figure 5. Visualization of co-occurrence, author's keywords

Source: <https://tinyurl.com/y5rgmk4x>

networked yet with the words “*application of technology*” or “*character education program*.”

#### RQ4. The Methods of Internalizing Character, Moral, and Ethical Values

Furthermore, content analysis was used to investigate variations in applied methods and values. Table 5 summarizes the findings from the 36 full-text data points regarding values and methods. It classifies the values and practices taught to students in Islamic boarding schools to shape their character.

The methods in Table 5 show that most *pesantren* apply role models (example) and habituation through interaction and communication activities of daily students. In learning, the methods applied include integrated thematic learning (religious tolerance and pluralism), *bandongan*, *sorogan*, and social involvement to gain experience and responsibility. The use of technology includes the use of computers and the internet, videos, online newspapers, and digital media. The next method is

integrating health education and behavior to enforce health attitudes by empowering healthcare learning and facilities. The habit of *santri* hygiene influences personal and social behavior in a system of *pesantren*. Finally, the dual role of the teacher is to support and be an example to practice Islamic obligations in self-sufficiency and discipline.

#### RQ5. The Moral Values

The core noble values for Santris' daily life were synthesized from 36 pieces and recorded as the core noble values for santris' daily life, mixed with Islamic religious principles and social and humanistic values. Those values include (1) religion, (2) honesty, (3) tolerance, (4) discipline, (5) tenacity, (6) creativity, (7) independence, (8) democracy, (9) curiosity, (10) patriotism/loyalism, (11) appreciative achievement, (13) friendliness or communication, (14) peace-loving, (15) reading motivation, (16) environmental consciousness, (17) social consciousness, and (18) responsibility.

It classifies the values and practices taught to students in Islamic boarding schools to shape their character. The core noble values that form *Santris*' daily life were synthesized from 36 articles and recorded as the core noble values for *Santris*' daily life, mixed with Islamic religious principles and social and humanistic values.

Table 5 classifies the values and practices taught to students in Islamic boarding schools to shape their character. The values were synthesized from 36 pieces and recorded as the core noble values for *Santris*' daily life, mixed with Islamic religious principles and social and humanistic values. These values are presented in Table 6.

## CONCLUSION

This article presents a systematic literature review using qualitative content analysis and network visualization of 36 articles on the cultivation of commendable character, ethical, and moral values in Indonesian Islamic boarding schools to describe, analyze, and summarize the scope of this research field. Most of the studies focus on the implementation of character education reinforcement strategies and instilling values. The solvency of those issues requires further research, evaluation, and synergy involving all elements of education. Therefore, this SLR and BA provide many contributions, including (1) identifying the contents of previous studies, including methods, discussion, gaps, and others, (2) facilitating the avoidance of

repetitive ideas, thereby saving time and anticipating mistakes that have been made before, (3) the visualizations identify the previous researchers' character, moral, and ethical values, and (4) developing network communications in the same area and field to generate more useful contributions.

As an Islamic educational institution, *pesantren* has a strategic role in inculcating these values. Furthermore, efforts to internalize human values are integrated into various methods of religious learning activities and students' daily activities. The strategies applied include *kyai*/teacher role models (example), habituation, media-assisted, and integration of values education in the learning process, both for religious and general knowledge.

Humanitarian values are religious values, friendliness, communication, environmental and social awareness, and responsibility. Meanwhile, the values are categorized as religious values (Islamic values, spiritual maturity, faith), social-cultural values (loving, tolerance, solidarity, communication, among others), personal maturity (discipline, confidence, responsibility, optimism, among others), and national values (nationalism).

*Santri*'s humanistic values manifested in their awareness of social and habituation methods. In *pesantren*, character and moral education are obtained from religious habituation and general knowledge in multi-discipline areas such as health, technology and information, communication, the nation, the environment, entrepreneurship, and economics.

Table 5  
The classification of values and methods

No.	Articles	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	Methods
1.	Widyasari et al. (2020)				V			V									V		V	Teachers and supervisors role models, peer relationships, using media: video, leaflets.
2.	Mukniah (2020)	V			V									V		V	V		V	The role modeling, habituation, and openness method (the method of integrated thematic learning)
3.	Manshur (2020)	V		V										V		V		V		<i>Santri's</i> experiences of Arabic literature are typical of <i>pesantren</i> learning, <i>kyai</i> , and teacher as a role model
4.	Helmi (2020)	V												V				V	V	The implementation values of corporate social responsibility on Islamic learning.
5.	Muassomah et al. (2020)	V		V		V			V					V	V		V	V		Teachers as models; Creative Learning Process using medium; Students' involvement in the learning process using literature messages (aesthetic and intrinsic values)
6.	Tanzeh et al. (2020)	V			V			V												Improving quality programs in <i>pesantren</i> , such as memorizing Al Qur'an ( <i>tahfidz</i> program)
7.	Fawait et al. (2020)				V	V		V		V									V	Applying for character education programs through self-regulated learning

Table 5 (Continue)

No.	Articles	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	Methods
8.	Huda et al. (2020)	V		V										V		V		V		The supply chain educational system strategy
9.	Zaki et al. (2020)				V	V	V						V						V	Brainstorming self-reliance and the doctrine of <i>santri</i> entrepreneur, familiarize <i>santri</i> to practice all values properly and responsibly.
10.	Bramantoro et al. (2020)	V						V									V		V	Integrating health behavior and environment in a comprehensive system in <i>pesantren</i>
11.	Rianti et al. (2019)	V															V		V	Empowering health care facilities, forcing healthy attitude
12.	Indra (2019)	V			V	V		V		V			V							Kyai, teachers as a role model, as a gesture giving full attention to <i>santri</i> , <i>pesantren</i> community
13.	Hefner (2019)	V			V			V										V		Subjective self-direction and reflection to <i>santris</i> ethics, experience, flourishing ethics, and learning on one else.
14.	Putra et al. (2019)								V					V		V		V		Developing learning content through direct and indirect learning, utilizing ICT and digital media. PBL uses online newspapers, videos, and social media.

Table 5 (Continue)

No.	Articles	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	Methods
15.	Ridwan et al. (2019)				V									V	V	V	V			ICT-based learning, sharing information, and interaction (teachers- <i>santri</i> )
16.	Baequni et al. (2019)	V		V	V					V	V		V	V	V	V	V	V	V	The implementation of the school-based <i>pesantren</i> educational program, leading the <i>santri</i> to the positive habits
17.	Wardi et al. (2019)				V		V	V					V					V		<i>Santris</i> ' students' business awareness by engagement in entrepreneurship activities
18.	Astuti et al. (2019)			V								V			V			V		Harmonious interaction among <i>santris</i> and their society, the role model of Kyai as a tolerant and helpful person.
19.	Anam et al. (2019)	V		V					V								V	V		The exemplary method, habituation, integration into many activities, intensive interaction between educators and <i>santri</i>
20.	Musthan (2019)				V		V						V	V			V			The model of effective leadership
21.	Mas'ud et al. (2019)	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	The addition of Islamic habituations and instructions

Table 5 (Continue)

No.	Articles	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	Methods
22.	Maghfirah (2018)			V						V						V		V	V	Personal management by lacking anxiety in three ways: observation, learning the language, and adaptation to the habits of a new culture
23.	I. Arifin et al. (2018)	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	Islamic crash course students apply <i>tashih</i> (competence of reading Al-Qur'an), <i>taushiyah</i> (lecturing on Islamic leadership values, and apprenticeship to apply <i>santri</i> 's character, ethics, and moral values.
24.	Sauri et al. (2016)	V	V											V				V	V	Bandongan and Sorogan methods
25.	Cholil & Zauddin (2018)										V		V	V						<i>Santri</i> uses new media and the internet, and they experience the computer equipment (hardware, software, and how to use it)
26.	Amri et al. (2018)	V		V					V			V		V	V			V		The internalization of pluralist values in the daily process of interaction and learning. <i>Santri</i> becomes the main agent of change. Planting the doctrine of religious tolerance and pluralism

Table 5 (Continue)

No.	Articles	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	Methods
27.	Sriyanto et al. (2018)	V									V									Implementation of self-developed program integrated through <i>santris</i> daily activities
28.	Ma'arif (2018)								V					V	V		V	V		Integration of the art of teachings and sciences
29.	Ma'arif (2017)	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	<i>Santris</i> interactions and communications
30.	Suhan et al. (2017)	V	V	V	V	V						V					V	V	V	Islamic spiritual leadership practices
31.	Susanto et al. (2016)									V							V	V	V	Promote personal health and hygiene environment, coaching <i>santri</i> to practice clean and healthy life
32.	Ismail et al. (2016)							V				V				V				Character education model
33.	Ali et al. (2016)	V	V		V	V											V	V	V	Kyai role model to perform habit of work ethos
34.	Fatchan et al. (2015)	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	Training skill bandongan model
35.	Pribadi (2014)	V																V		Religious learning, Integrated Syari'ah (Islamic Law) into all daily life aspects.

Table 5 (Continue)

No.	Articles	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	Methods
36.	Izfaana and Hisyam (2012)	V						V						V	V			V		Giving support and habit to ibadah (practical Islamic duties), setting good examples and role models, and implementing knowledge, condition, and practice. (Positive and supportive condition of <i>santri</i> )
Total		23	12	13	14	14	7	11	6	13	7	7	11	19	11	12	17	18	17	

Table 6  
*The noble values of santri*

No.	Values	Percentage (%)
1.	religious	9.92
2.	honest	5.17
3.	tolerances	5.61
4.	discipline	6.04
5.	persistence	6.04
6.	creativity	3.01
7.	independence	4.74
8.	democracy	2.58
9.	curiosity	5.61
10.	patriotism/loyalism	3.01
11.	appreciative achievement	4.74
12.	friendliness or communication	8.18
13.	love of peace	4.74
14.	interest in reading	5.17
15.	environmentally conscious	7.33
16.	socially conscious	7.77
17.	responsible	7.33

The analysis results suggest that research on moral values, character, and ethics has many potentials to be carried out in the future with several considerations. Trending research is indexed by Scopus in the field of research on character, morals, and ethics, resulting in a lower number of categorized research. Exploration of this topic is essential because the research results can be a consideration and reference for developing and evaluating its internalization. The

visualization networks show detailed links for mapping the status of topics that have not been widely explored or discussed. This paper's major contribution is an extensive summary of the systematic classification and mapping of character, moral, and ethical values, methods, and the relevant literature.

There are a few key points that should be investigated further. First, all *santri* activities, such as religion, lectures, extracurricular activities, healthy living, and other activities that demonstrate the *pesantren's* individuality, should be supported in creating ways to internalize Islamic boarding school ideals. The combination or integration of these methods can be examined to see whether they can be adopted and reinforced. It indicates that noble principles are taught through various methods, including exemplary, habituation, and activities. Further research is required to strengthen the development of methodologies and tactics in this subject. Future studies on character, morality and ethical education in Islamic boarding schools might investigate new study areas using the findings of this SLR and the visualization of BA.

Given the large number of publications that many international journals have not indexed, it is suggested that future researchers be passionate about publishing in international journals to access their work easily. Writers who pursue research in moral character education in Islamic boarding schools are observed to be unproductive in producing articles on Scopus. For further studies, researchers are suggested

to collaborate with other researchers from various disciplines to generate creativity and new perspectives in *pesantren*. Collaboration is very important and opens the exchange of ideas, knowledge, and expertise from various disciplines. Collaborating results in intellectual friendship. Internationally, it can be accessed more widely in this field.

Finally, the outcomes of past research trends resumption can be observed by evaluating the distribution of the number of recorded keywords based on the year of publication of the researcher. Future researchers may develop and perform bibliometric and SLR research. They should use databases from other indexing journals to attain a wide range of study options.

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*Case Study*

## **Transdisciplinary Approach Application in Teaching English Spoken Interaction: Ukrainian University-A Case Study**

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### **ABSTRACT**

This paper is a preliminary attempt to analyse the results of implementing the transdisciplinary approach in teaching English professional spoken interaction to mediators at the universities of Ukraine within emergency remote teaching. The study aims to broaden current knowledge of the transdisciplinary approach in Ukrainian university case study. The authors focused on the main characteristics of the transdisciplinary approach and elaborated the Triple Helix: English for specific purposes, mediation field, and stakeholders to ensure penetration of mediation knowledge, skills, and abilities into the knowledge, skills, and abilities of English for Specific Purposes (ESP). There are 42 future mediators who took part in the research. The stages and aims of the transdisciplinary approach in teaching English professional spoken interaction to mediators are identified. They are used to conduct quantitative and qualitative experimental data analysis during ESP teaching. The theoretical and practical analyses were used to stipulate the impact of the transdisciplinary approach on teaching English professional spoken interaction to mediators during emergency remote teaching. This research has shown that applying a transdisciplinary

approach allows future mediators to develop professional skills in conflict detection, analysis, and management using different fields of knowledge. The prospect of implementing a transdisciplinary approach is a continuous incentive for future research with students of different specialisms.

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## INTRODUCTION

From the spring of 2020 to 2022, the pandemic affected higher education in Ukraine. Even though the national higher education was almost ready to continue teaching and learning online, it experienced some challenges in emergency remote teaching. The globalisation of education plays a vital role in online learning. It is suggested that one of its most important elements is the informatisation of society, which is intricately connected with the rapid development of computer and information technologies. In pandemic times, globalisation has brought together many opportunities for students and teachers to receive information online, remotely participate in conferences, and webinars, use books from world libraries and read scientific articles. The Internet has become one of the most important resources for obtaining information for students and teachers and for a wide range of people who want to continue their professional development (Hayden et al., 2020).

However, the world's pandemic does not resolve international conflicts and disputes but acts as a powerful catalyst. The conflicts and contradictions that have arisen long before the pandemic has aggravated, and the general chaos is intensifying (Huang, 2020). As a result, the fight against coronavirus in different countries and the global economic crisis provoked even more international conflicts and disputes and increased the need for qualified mediators. Thus, future specialists in the field of mediation and conflict resolution must know the causes and features of regional and ethnic conflicts in

the world, and methods of their management and prevention, and be able to conduct and organise projects of international cooperation.

Coey (2018) believes that the main features of modern civilisation are the rapid growth of information leading to the fragmentation of the perception of the world increases, the crisis of self-determination, and tension in interethnic and interfaith relations. However, the amount of information growing hyperbolically (thanks to the development of the Internet) and globalisation processes in the world lead to innovative changes in pedagogical approaches.

At the university, future mediators gain the basic professional knowledge that is rapidly transforming due to the changes in the world. The new pedagogical approach must correspond to new pedagogical techniques, methods, and technologies. We believe the most effective way is to adopt an approach based on integrating knowledge. The transdisciplinary approach based on integrating knowledge from different fields must be presented to provide students with the necessary knowledge, skills, and abilities. In the learning process, transdisciplinarity is the development of concepts with fundamental cognitive significance and broad open possibilities for the interaction of many disciplines in solving complex societal problems. Thus, the transdisciplinarity approach in teaching English-spoken interaction integrates the knowledge, skills, and abilities required in various subject areas.

## Literature Review

The transdisciplinary approach has received much attention in the past decade. Within our case study, two goals can be distinguished during its implementation into the educational process in higher institutions of Ukraine: ensuring the integrity of knowledge and a holistic influence on all human spheres, which involves establishing a connection between the cognitive and emotional sides of education.

The characteristics of transdisciplinarity are not well understood due to its variable content. The urgent need for transdisciplinarity appears in studies that cross the boundaries of many disciplines and the threshold of specific disciplines to develop solutions for complex problems in science and society. Thus, the transdisciplinary approach has become especially relevant since a change in scientific paradigms of knowledge—the formation of a post-non-classical paradigm of knowledge in science and education, in particular (Simkova & Saienko, 2019).

However, in the literature, there seems to be no general definition of transdisciplinarity; most researchers (Jeder, 2014; Tang, 2015) tend to agree on the fact that transdisciplinarity appears as a result of scientific knowledge forced threshold crossing in the proses of analysis, synthesis, and comprehension of the global world phenomena. According to Tang (2015), J. Habermas (2001) associates the need for a transdisciplinary approach in education with the fields that use a reconstructive technique, relying on the pre-theoretical knowledge of

competent experts in their judgments and knowledge systems transmitted by cultural traditions.

The last five years have witnessed a huge growth in philosophical and scientific studies, where the difference between interdisciplinarity, multidisciplinary, and transdisciplinarity are considered in sufficient detail (Bernstein, 2015; Moki, 2017). However, those differences are not addressed in this paper. We initiated this research to investigate the impact of the transdisciplinary approach on teaching spoken interaction in English to future mediators allowing us to talk about transdisciplinarity as a strategic basis for developing a fundamentally different perception of the educational space and objects.

Throughout this paper, we consider the transdisciplinary approach *modus* to designate the principle of scientific knowledge acquisition, which provides wide possibilities for the interaction of many disciplines in solving complex problems of teaching English-spoken interaction to mediators at university. It helps us to create a holistic vision of the researched issue. The transdisciplinary approach assumes the transfer and penetration of cognitive schemas from one disciplinary field to another and their joint implementation in teaching English-spoken interaction to mediators at the university.

In studies by Knight (2018) and Stepanova et al. (2020), the English-spoken interaction of mediators is considered a kind of professional communication followed by

information exchange. Other observations suggest that this explanation is insufficient (Krestovska et al., 2017) as information exchange is a global phenomenon that goes beyond the scope of professional communication. The aim of information exchange is not the exchange itself but the need to develop a common understanding of issues during communication. Having received the information, the mediator interprets and perceives it in a specific way. The results depend on the information itself, as well as on the individual experience of the mediator, their background knowledge, and the general level of soft and hard skills development. Under the influence of many circumstances, mediators may understand and perceive the same message in completely different ways. Moreover, they may even give opposite assessments of the same phenomenon, perceiving it differently (Tuliakova, 2020). Therefore, productive communication is usually accompanied by clarifications, explanations, and detailed elaboration—effectively developed skills and abilities during teaching English-spoken interaction to mediators.

According to the professional requirements, future mediators must effectively participate in formal negotiations, meetings, and business meetings related to their professional activities (Narovska, 2019). They should be able to recognise the typical professional vocabulary, differentiate typical professional situations, appropriately behave, and react to messages in a professional environment, anticipate and perceive the parties' views in the

mediation process, and effectively build English professional spoken interaction.

The year 2019 has become a new stage in developing the mediation field in Ukraine. The United Nations Convention on International Settlement Agreements Resulting from Mediation (United Nations, 2018) was signed in Singapore. Ukraine has become a full participant among the other 46 countries, including China and the United States. Ukraine's participation in the signing of the convention contributes to the fact that foreign partners will consider Ukraine as a country that recognises the provisions of the convention and is ready to promote and use alternative dispute resolution. This document aims to create a favourable investment climate in Ukraine, reducing business costs for dispute resolution and court delivery.

The complex challenges put forward by the labour market before the future mediators are effective international communication and exchange of experiences, increasing students' mobility, access to information, and mutual understanding during professional activities. International standards of mediation, which are multilateral, exist at the universal and regional levels. Regional legal cooperation is mainly conducted within the framework of continental international associations in North, Central, and South America, Africa, Southeast Asia, the Middle East, and others (Krestovska et al., 2017). As Ukraine is geographically located on the European continent and is actively integrating into the European legal space, it seems appropriate

to train mediators ready for interstate cooperation within the framework of European associations (Narovska, 2019). In this situation, the transdisciplinary approach represents a valuable innovative alternative to widely known professional-based or communicative-based approaches.

The transdisciplinary approach's application in teaching spoken interaction in English presupposes using the Triple Helix. The emergence of the Triple Helix is associated with globalisation, which affects substantial changes in science, technology, economics, and politics (Simkova & Saienko, 2019). In our study to provide the efficient teaching of English-spoken interaction to mediators, we elaborated the Triple Helix: English for specific purposes, mediation field, and stakeholders that bears a close resemblance to the helix of social partnership: university, government, and business proposed in the studies of Etzkowitz and Zhou (2017). The proposed Triple Helix assures penetration of mediation knowledge, skills, and abilities into the knowledge, skills, and abilities of English professional spoken interaction and their joint implementation in the various professional situation originated by stakeholders. In this aspect, the range of stakeholders may vary from local and national organisations to international such as NATO or UNO.

The paper's authors conclude that the transdisciplinary approach enhances the teaching of English professional spoken interaction because it represents a means of achieving knowledge and developing

skills and abilities necessary for mediators in professional spoken interaction, such as negotiations and conflict resolutions. Thus, our study aims to broaden the current knowledge of transdisciplinarity and investigate the impact of the transdisciplinary approach on teaching English professional spoken interaction to mediators at higher institutions.

## METHODS

In order to achieve the goals of the study, a complex of empirical and theoretical methods of scientific research are used. The main theoretical methods used in the study are the generalisation of knowledge about transdisciplinarity, analysis of documents regulating the work of the specialists in mediation and conflict resolution, and conceptual provisions of the methodology of English professional spoken interaction teaching of future specialists in the field of mediation. The empirical methods used in the study are the Likert-type scale for the assessment of the performance of the tasks and the quantitative method to show the impact of the transdisciplinary approach on the teaching of English professional spoken interaction to future mediators in the groups which used the transdisciplinary approach and compare the results with the groups which use the traditional learning method before and after the English for Specific Purposes course. The qualitative method was used to explore the future mediators' answers during semi-structured interviews.

## Participants

The study involved 42 master's degree students at the Igor Sikorsky Kyiv Polytechnic Institute (Kyiv, Ukraine) majoring in Mediation and Conflict Resolution, who took a course in English for specific purposes in the first (autumn-winter) semester of 2020 and 2021. The future mediators participated in the experimental study voluntarily. The study of the course covered 36 contact hours (1 class per week). In Ukraine, the master's degree admission programme is based on the results of national English exams; thus, students' language proficiency level was approximately the same—B2 according to the Common European Framework of Reference (CEFR). The future mediators were divided into two groups: testing and academic (21 participants in each group). The academic group was taught ESP using traditional methods, and the testing group used the transdisciplinary approach. The master's degree students were chosen in our research because they possess sufficient English language proficiency. Most of them had experience in mediation during practical training after completing their bachelor's degrees.

## Materials and Procedure

During the experimental study within the ESP course, both groups studied the following topics: "Local make-peace activity," "Social reunion and reconciliation," and "Negotiation as a way of solving conflicts." The academic group was taught traditional methods and performed the

usual tasks: explaining professional terms and concepts and performing professional dialogues. In the testing group, we used the transdisciplinary approach, implemented if the separate activity in the fields does not bring effective results. It incorporates the intersection of different fields (subjects, representatives) that are not identical, for example, mediation, professional spoken interaction, and the English language. Future mediators in the testing group are asked to negotiate to resolve the conflict on one of the special topics (nuclear weapons, Children of the Revolution, A Day Called X, Donetsk: City of Contrast). In the testing group, before delivering the special topic, teachers provide future mediators with authentic presentations, where students can see and analyse the behaviour and communication of real mediators. They also invite mediators to share their experiences with the students. It helps future professionals be informed about the origins of different world conflicts, anticipate the stages of conflict regulation, provide constructive decisions, be aware of management principles, decision-making factors in conflict prevention, stages of the negotiation process, strategy, and tactics. In the end, students of the testing group performed tasks connected with conflict resolution.

In our research, we used innovative tasks aimed at the development of communication skills, collaboration skills, and critical thinking skills. The tasks performed by future mediators within the course can be divided into three stages: informative, research, and presentational. Table 1 shows the aims of the stages.

In order to investigate the effectiveness of the transdisciplinary approach in teaching English professional spoken interaction, students of both groups were offered a pre-test at the beginning of the course and a post-test after its completion. The tests were designed by Tuliakova (2020). The tasks were identical in both groups and aimed at assessing English professional spoken interaction by future mediators before and after the experimental study. Typical instructions for speaking tasks proposed to students were performing an information gap activity, describing a kind of conflict based on a photo or video presentation, proposing the ways of conflict resolution, and discussing the ways of proposed conflict resolution. We also conducted

informal semi-structured interviews with the participants of the testing group, requiring the students to elaborate on their attitudes to task-based learning: (1) Did you know the peculiarities of English professional spoken interaction for mediators? (2) Do you think the assignments you performed during the ESP course will be useful during the mediation activity? and (3) What difficulties did you face in resolving conflict while working on the assignments?

The effectiveness of implementing the transdisciplinary approach in teaching English professional spoken interaction was estimated based on the results of English professional spoken interaction and the results of conducted semi-structured interviews.

Table 1  
*The stages and aims used within the application of the transdisciplinary approach in teaching English-spoken interaction*

Stages' names	Aim of the stage
Informative	Assimilation and consolidation of English language materials to a professional topic or situation; statements based on the materials of one completed opinion.
Research	Switching from one professional task to another, considering the logical connection of sentences following the studied topic.
Presentational	Development and presentation of resolutions to discussed conflicts using various functional languages. Construction and expression of personal attitude to facts or events; formulation of critical assessment and argumentation.

We chose the semi-structured interview since it allows us to explore additional information about developing students' English professional spoken interaction skills relevant to the study. The interview takes not more than three minutes for each student.

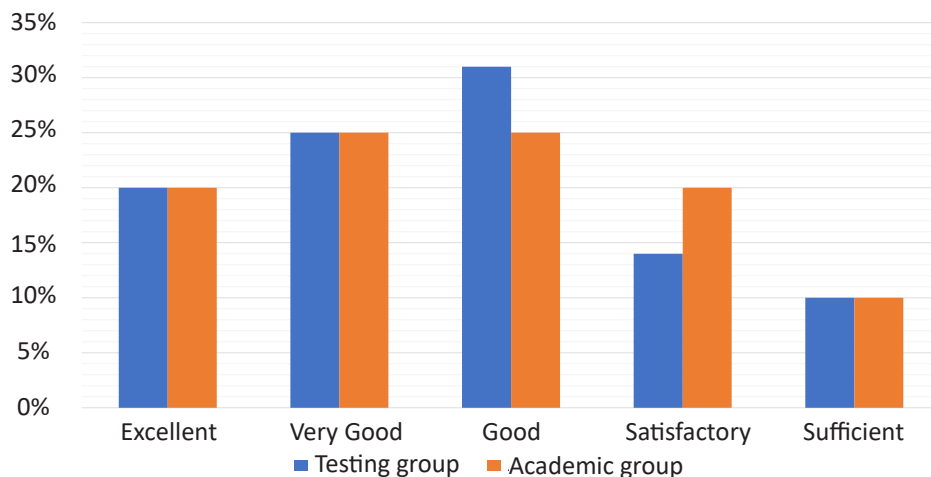
**RESULTS AND DISCUSSION**

The analysis of testing before the implementation of the transdisciplinary approach was used to confirm that both groups of the experimental study had approximately similar levels of knowledge in English professional spoken interaction.

The pre-testing results showed no significant differences in the levels of English professional spoken interaction in both groups. To evaluate the results, we used the Likert-type scale (Tsang, 2012), which implied Excellent performance (95–100 points), Very Good performance (94–85%), Good performance (84–75%), Satisfactory 74–65%, Average 64–60%, Low 59–0% of correct answers. Table 2 shows a comparative analysis of the percentage of students in testing and academic groups: Excellent (20% of students in each group), Very Good (25% of students in each group), Good (31% and 25% of students, respectively), Satisfactory (14% and 20% of students, respectively), Sufficient (10% and 11% of students, respectively). There were no students with Insufficient performance.

After implementing the transdisciplinary approach in teaching English professional spoken interaction to mediators, we observe

the positive dynamics in both groups. However, the percentage of students who demonstrated higher performance (Excellent, Very Good, and Good) in the testing group increased in comparison with the academic group that used traditional approaches in teaching English professional spoken interaction to mediators (by 6% vs 3.3%, 3% vs 2.7%, 4.4% vs 3.7%, respectively). Figure 1 presents the percentage of students who demonstrate average performance, which decreased significantly in the testing group than in the academic group (by 7.2% vs 5%, and 6.2% vs 4.7%, respectively). The most marked observation from the data comparison was that implementing a transdisciplinary approach in teaching English professional spoken interaction to mediators increased the level of knowledge, skills, and abilities of students who demonstrate average performance.



*Figure 1.* The dynamics of changes in academic and testing groups during the implementation of the transdisciplinary approach in teaching English professional spoken interaction to mediators

We analysed students' responses during the semi-structured interview. Fifty-three per cent of respondents indicated they knew the peculiarities of English professional spoken interaction with mediators. The most common responses were: "I know well the peculiarities of English professional spoken interaction for mediators" and "I am sure how I can interact during mediation." Over half of the 42 subjects who participated in the interview replied that they felt good about implementing a transdisciplinary approach. A small minority of respondents felt it is hard to say how they must conduct the communication during mediation. Most respondents (90% of students) felt that the

assignments they performed during the ESP course would be useful during their mediation activity. When the subjects were asked about the difficulties, only two students (about 5%) answered that the tasks were difficult, and 10% were unsure where their English professional spoken interaction would include such assignments. The overall response to the third question was surprising. Thus, future mediators experienced some difficulties in tasks where they were asked to present their vision of conflict resolution, as some of them were not sure if their decision was right, and others did not know how to present it effectively.

Table 2

*The comparative results of testing in academic and testing groups after the implementation of the transdisciplinary approach in teaching English professional spoken interaction to mediators*

GROUP NAME	Testing Group			Academic Group		
PERFORMANCE LEVEL	Before the course (%)	After the course (%)	Total difference (%)	Before the course (%)	After the course (%)	Total difference (%)
Excellent	19,5%	25,5%	+ 6%	19,5%	22,8%	+ 3,3%
Very good	25,5%	28,5%	+ 3%	25,5%	28,2%	+ 2,7%
Good	30,6%	35%	+ 4,4%	26,5%	30,2%	+ 3,7%
Satisfactory	14,4%	7,2%	- 7,2%	18,5%	13,5%	- 5%
Sufficient	10%	3,8%	- 6,2%	10%	5,3%	- 4,7%
Insufficient	0%	0%	0%	0%	0%	0%

It is important to note that respondents felt positive about the stakeholders' presence in the last stages of the task's performance as far as they had an opportunity to share and discuss their visions for conflict resolution with experts.

The results of our research confirm the effectiveness of implementing the transdisciplinary approach in teaching English professional spoken interaction to mediators. We selected two groups of master students: a group that used

traditional approaches and a group that implemented a transdisciplinary approach. Table 2 highlighted that the students of the testing group had better results than those of the academic group. These findings correlate favourably well with Johansson and Vinthagen (2019) and further support the idea that the transdisciplinary approach dissolves the bonds between the conventional fields of science and promotes teaching and learning around the construction of new knowledge and evolve the intersection of complex sciences in solving complex problems of society.

Mitchell et al. (2015) proposed distinguishing outcome spaces in the transdisciplinarity approach. In our study, they can be considered theory-guided, phenomena-based, and experiment-guided. The theory-guided space aims to improve the field of inquiry, i.e., the study of transdisciplinarity and its methodology. The phenomena-based space is used to generate the relevant flows of knowledge, which can combine theoretical principles with the observed experimental data and lead to predicted results. The experiment-guided space refers to the transformational learning by the researchers and involved participants, and it can be used to conduct experiments and use a defined procedure that has a level of reproduction acceptable for the scientific community, both procedure itself and its results. It stresses the importance of the simultaneous consideration of theory-guided, phenomena-based, and experiment-guided spaces in transdisciplinarity.

Of particular interest is the application of the transdisciplinary approach in teaching ESP to mediators, as far as mediation arose primarily at the intersection of legal sciences and psychology. The advantages of applying the transdisciplinary approach in teaching ESP to mediators far outweigh the disadvantages (if any arise) regarding current research in mediation is using a wide range of humanitarian disciplines such as philosophy, sociology, political science, and pedagogy.

Our study provides considerable insight into teaching English professional spoken interaction to future mediators due to the application of the transdisciplinary approach that helps to determine the circumstances that support the resolution of major social problems, for instance, conflict resolution and protection of the environment. It brings a deeper understanding of human nature and a person's existence as integrity in the surrounding world. The methodology of transdisciplinarity makes it possible to explore complex phenomena of natural and social reality based on the principles of holism and the theory of emergence (Parravicini, 2019).

There is a clear probability that the implementation of the transdisciplinary approach is efficient in teaching mediators as far as they must be ready to provide solutions to overcome the crisis in the life of modern humankind. Implementing the transdisciplinary approach forward to develop a new integral stable worldview, free from anthropocentrism, open to changes

and future planning. The assignments proposed to future mediators within the ESP course develop professional skills in conflict detection, analysis, and management that aimed at the reconciliation of opposites in the process of co-evolution of man and nature, establishment of a balance between the individual and the collective common good, and creation of fair mechanisms to ensure social justice.

Scholz (2020) defines transdisciplinarity as the “third type” of science that complements the disciplinary and interdisciplinary modes of knowledge production since boundaries between science and the sphere of practical implementation of research are not impenetrable. In this model of scientific activity, experts and experiment participants are interested in the results of these studies and are regarded as experts of equal value. Their expert position is based on practical knowledge and experience that grows out of the pragmatism of everyday problem-solving and interest in bringing up effective results; it contributes to the formation of stable communicative relationships between theorists and practitioners. The assignments influenced by the transdisciplinary approach might be based on the project work; they include the construction of non-hierarchical network connections of the participants and assume the elaboration of a single space of common action. When performing the tasks, students can use ideas from different fields and consider the mutual influence of various hypotheses and conclusions of all participants of the project work.

The findings are well substantiated by the idea that the mediators, the parties to conflict situations, and the researcher of certain mediation processes are interrelated. Lohr (2018) is correct to claim that their roles do not have explicit subject-object relations but represent a single field of interaction, where the expert can be both a researcher observing the process and a mediator and participant in the conflict.

One limitation of our research is that the interviews and experimental study were conducted only in two groups of students enrolled in the master’s programme of Igor Sikorsky Kyiv Polytechnic Institute (Ukraine). The reason for this is that the mediation field is rather new for higher institutions in Ukraine. However, due to the political situation all around the world, the demand for experienced mediators is growing; we can still state that research involving a bigger number of students in the next years could provide more convincing results to confirm the efficiency of the implementation of the transdisciplinary approach in teaching ESP to mediators.

## CONCLUSION

The findings of this study support the idea that applying the transdisciplinary approach in teaching ESP to mediators corresponds to a new pedagogical perspective. Its implementation provides the basis for new methods and technologies that can be used while teaching ESP to future mediators within emergency remote teaching and assist them in obtaining advanced professional

knowledge transforming rapidly due to changes in world politics and economics. Considerable progress has been made regarding the effective development of knowledge, skills, and abilities in the oral presentation of conflict resolution ideas, which is one of the required features of future mediators. As far as our results are promising, applying the transdisciplinary approach in teaching ESP to mediators should be validated by a larger sample size.

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## **Problematic Smartphone Use and Its Impact on the Psychology of Adolescents in Malaysia**

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### **ABSTRACT**

This study aims to determine the prevalence of problematic smartphone use (PSU) among secondary school adolescents and to examine its relationship with psychological problems (depression, anxiety, and stress [Model 1], or the number of psychological problems [Model 2]). This cross-sectional study has utilised a self-administered questionnaire assessing the participants' sociodemographic and clinical characteristics, pattern and purpose of usage, presence of PSU (via the Malay-version smartphone addiction scale-short version [SAS-SV]), and presence of psychological problems (via the depression-anxiety-stress scale-21 [DASS-21]). Four hundred and fourteen students aged 15–16 from five national secondary schools in Seremban and smartphone users have been recruited via cluster sampling. Students in remedial or special education classes, previously diagnosed with depression, anxiety or stress and absent on the day of data collection were excluded. The prevalence of PSU, probable depression, anxiety and stress were 43.5%, 31.6%,

48.3% and 26.8%, respectively. Most respondents reported mild to moderate severity for each psychological problem. However, three out of ten respondents had multiple psychological problems. In both multiple logistic regression models, Malay students had higher daily usage, and the higher monthly costs were significantly associated with PSU when other confounding factors were controlled.

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A higher number of psychological problems was associated with PSU (adjusted odds ratio: 1.28, 95% confidence interval: 1.06–1.54;  $p=0.011$ ) but not purpose of usage or individual psychological problem. PSU and psychological problems were prevalent among secondary school adolescents. These findings highlight the complex relationship between PSU and psychological problems that warrant further detailed studies.

*Keywords:* Adolescents, anxiety, depression, Malaysia, problematic use, smartphone, stress

## INTRODUCTION

Smartphones have become essential tools in daily life as hand-held computers and communication devices with multiple functions. Nevertheless, excessive smartphone use has been prevalent in recent times. This phenomenon, characterised by uncontrolled and pervasive use, reflects other technological and behavioural addictions, such as Internet and gaming addiction (Panova & Carbonell, 2018; Sohn et al., 2019; Yu & Sussman, 2020). Besides losing control, it shares other psychological features of addiction, including tolerance, compulsive and persistent behaviour despite significant negative consequences, functional impairments, craving, and other withdrawal symptoms (Panova & Carbonell, 2018). Thus, many previous studies conceptualised excessive smartphone use as smartphone addiction. However, some experts argue that it is merely problematic or maladaptive smartphone use and not a distinct entity of technological addiction

(Yu & Sussman, 2020). Hence, smartphone addiction (SA) is still not recognised as a mental disorder by the Diagnostic and Statistical Manual of Mental Disorders, 5th Edition (DSM-5; American Psychiatric Association, 2013). Smartphone addiction is also referred to as problematic smartphone use (PSU), and both terms have been used interchangeably in previous studies (Yu & Sussman, 2020).

Over the past decade, PSU has become more common, especially among adolescents and young adults (Panova & Carbonell, 2018; Sohn et al., 2019; Yu & Sussman, 2020). A study among adolescents in six Asian countries reported smartphone ownership among Malaysian adolescents at 56.7% and social networking as the most common Internet usage (37.9%; Mak et al., 2014). It is postulated that growing up with various high-technology devices has rendered adolescents highly receptive to smartphone overuse (Kwon et al., 2013). According to a systematic review by Sohn et al. (2019) based on 41 studies published between 2011 and 2017, the prevalence of PSU among adolescents and youth ranges mainly between 10% to 30%, with a median prevalence of 23.3%. However, recent studies demonstrated a higher prevalence of 74% among adolescents aged 7–18 years old (Buctot et al., 2020; Coco et al., 2020; Jo et al., 2020). In Malaysia, previous research on PSU showed a prevalence of 15% to 61%, although it mainly involved young adults at tertiary educational centres (Hadi et al., 2019; Ismail et al., 2020; Ithnain et al., 2018; Nasser et al., 2020; Nor et al.,

2020). However, studies on school-going adolescents (under 18 years old) are still lacking.

PSU among adolescents and young adults has been significantly associated with a unique usage pattern and various adverse consequences. Adolescents with PSU overuse smartphones in terms of duration (four hours or more per day) and frequency and involve specific smartphone functions that are primarily used for socialising (social networking), gaming and entertainment with less parental control (Cha & Seo, 2018; Fischer-Grote et al., 2019; Haug et al., 2015). This trend has been associated with significant adverse physical consequences (e.g., wrist pain, neck discomfort, blurred vision, and giddiness), poor academic performance, interpersonal problems, poor sleep and psychological problems such as depression, anxiety and stress (Elhai et al., 2017; Haug et al., 2015; C. Lee & Lee, 2017; Panova & Carbonell, 2018).

Depression, anxiety and stress have been associated with PSU with minor to moderate effects (Elhai et al., 2017; Sohn et al., 2019; Thomée, 2018; Vahedi & Saiphoo, 2018). Many previous studies used a cross-sectional design. Thus, the causal relationship between PSU and psychological problems could not be determined. Some studies have shown a significant association between PSU and psychological problems (Buctot et al., 2020; Hadi et al., 2019; Ikeda & Nakamura, 2014; Ithnain et al., 2018; Kim et al., 2020; Nor et al., 2020). In contrast, other studies showed non-significant relationships between PSU

and psychological problems (Cha & Seo, 2018; Choi et al., 2015; Elhai et al., 2016; Ismail et al., 2020; J. Lee et al., 2018; Thomée, 2018). Similarly, longitudinal studies also demonstrated mixed findings (Coyne et al., 2019, 2020; Jo et al., 2020; Jun, 2016, 2019; Lapierre et al., 2019; Park et al., 2019; Thomée et al., 2011). Only a few studies suggested a bi-directional relationship between PSU and depression (Jun, 2016; Liu et al., 2019; Park et al., 2019), whereas some highlighted that the relationship is mediated by other factors such as proneness to boredom and self-regulation through behavioural activation and emotional suppression (Elhai et al., 2016, 2018). Due to these conflicting results, more studies are required to understand the psychopathological mechanism underlying PSU, especially in multicultural countries such as Malaysia.

Locally, previous studies on PSU and psychological problems and well-being mainly involved students of tertiary institutions with different life challenges compared to secondary school adolescents (Hadi et al., 2019; Ismail et al., 2020; Ithnain et al., 2018; Nasser et al., 2020). However, most research showed a significant association of PSU with depression, anxiety and poorer psychological well-being, except for the study by Ismail et al. (2020). A more recent study by Nor et al. (2020), which examined this relationship among 158 secondary school students aged 13-16, highlighted that higher smartphone use significantly correlated with poorer psychological well-being. Therefore, the

lack of relevant research and the importance of examining the magnitude of PSU and its relationship with psychological problems among secondary school Malaysian adolescents demands more in-depth studies in this area. Accordingly, this study examines the prevalence of PSU among adolescents in Malaysia and its association with depression, anxiety and stress when sociodemographic factors, usage patterns, commonly used functions and parental usage limitations were controlled. Besides assessing the relationship between PSU and each psychological problem, this study also examines the impact of having multiple psychological problems on smartphone use, as these problems could have a cumulative effect. Notably, most adolescents who suffer from psychological problems would have mild to moderate severity (Ismail et al., 2020; Ithnain et al., 2018; Nasser et al., 2020), in which the impairment might not be severe enough to be accounted as a feature of behavioural addiction (Panova & Carbonell, 2018). Usually, behaviour addiction involves pervasive and continuous negative behaviour despite significant impairment (Panova & Carbonell, 2018).

The researchers hypothesised that the higher the number of psychological problems, the greater the impairment and likelihood of adolescents with PSU. The findings of this study would also lend valuable insights into prevention and intervention strategies against PSU by medical professionals and healthcare providers.

## METHODS

The researchers conducted a cross-sectional study in Seremban, Negeri Sembilan, Malaysia in two phases between June 2016 and November 2016: (1) Phase 1: Validation of the questionnaire and (2) Phase 2: Main study. All Form 4 students aged 15–16 (equivalent to 10<sup>th</sup> grade in the USA educational system or Year 11 in the UK educational system) from two schools during Phase 1 and three schools during Phase 2 were invited to participate in this study. Out of 29 schools in the district, five schools were selected by the State Education Department because they were national co-ed secondary day schools located within a 10 to 20 km radius from each other, with a similar population. The State Education Department, Malaysia also determined the year (i.e., grade) of the students involved in the study as they were not facing any significant examinations that year. The inclusion criteria for Phase 1 and Phase 2 studies involved students who used a smartphone, agreed to participate and had written parental consent. Students in remedial or special education classes, previously diagnosed with depression, anxiety or stress, and absent on the day of data collection were excluded.

A smartphone has been operationally defined as a cellular or mobile telephone with an integrated computer function and other features or software applications (e.g., camera, video, email, Internet connection and data plan) different from the conventional mobile telephone. Other telecommunication devices, such as iPads, tablets, and notepads,

were not considered smartphones. Phase 1 of the study involved students recruited from two secondary schools. This phase aims to translate the original English version of the Smartphone Addiction Scale-Short Version for adolescents (SAS-SV) into the Malay language and examine the psychometric properties of the Malay version of the SAS-SV. The original English version of SAS-SV was translated into Malay through the back-to-back-translation process, which involved two independent translators from English to Malay and another two independent translators from Malay to English. These translators were linguistic lecturers or secondary school teachers teaching Bahasa Malaysia or English. The sample size was 143 participants, subject to the item ratio of ten participants per item and considering a 30% drop-out rate. At each translation stage, the translated versions were reviewed and harmonised by a panel of experts (two family medicine specialists and one psychiatrist) after obtaining feedback from the translators. Subsequently, the Malay version of SAS-SV was subjected to face validation involving ten secondary school students, resulting in a minor change by adding a conjunction for Item 2.

The second face validation with another set of ten secondary school students showed good comprehensibility of the final Malay version of SAS-SV. Then, this version was given to 154 students for construct validation and reliability study via test-retest (only involved 20 out of 154 students) and internal consistency testing. The participants involved in Phase 1 of the study were

not included in Phase 2. The researchers performed Principal Axis factoring (PAF) with Direct Oblimin rotation for construct validity. The initial exploratory factor analysis resulted in two components with Kaiser-Meyer-Olkin Measure of Sampling Adequacy of 0.818, and the  $p$ -value for Bartlett's test of sphericity was  $<0.001$ . However, the items were forced into one component based on the scree plot and parallel analysis with Monte Carlo PCA. The one-component solution explained a total of 36.4% of the variance.

Meanwhile, Cronbach's alpha of the Malay version of SAS-SV was 0.84. For reliability testing, Spearman's rho correlation between the test and retest scores was 0.95 ( $p<0.001$ ), suggesting a good correlation between the scores. The Wilcoxon Signed-Rank test was insignificant ( $p=0.118$ ) and indicated no significant difference between the scores.

In Phase 2, the researchers used StatCal EpiInfo version 7 for sample size calculations. The sample size was 384, calculated based on an estimated smartphone addiction prevalence of 50%, 95% confidence interval (CI) and 5% precision. Considering 20% of the non-response rate, 460 students were recruited from three secondary schools. The definition of a smartphone was clearly stated on the first page of the self-administered questionnaire, written in the Malay language and comprised five sections:

1. Sociodemographic data (i.e., gender, ethnicity, monthly family income,

- parent/guardian's employment status)
2. Past medical history
3. Patterns of smartphone usage (i.e., smartphone ownership, daily usage time, parental usage limitations, cost of monthly usage, source of money spent on a smartphone, and purpose of usage)
4. PSU using the recently validated Malay version SAS-SV, and
5. Probable depression, anxiety and stress using the Depression, Anxiety and Stress Scale-21 (DASS-21)

The students took less than 10 minutes to complete the questionnaire.

The SAS-SV comprised ten items with a 6-point Likert scale response (strongly disagree to strongly agree). The total score ranged from 10 to 60. The PSU was defined by the cut-off points of 31 or more for male adolescents and 33 or more for female adolescents. Adopted from the original version of the SAS-SV, the cut-off values had good sensitivity (male: 0.87, female: 0.86) and specificity (male: 0.89, female: 0.89) in predicting smartphone addiction (Kwon et al., 2013). The validated self-administered Malay version DASS-21 had three domains (depression, anxiety and stress) used as a screening tool to detect probable depression, anxiety and stress based on symptoms in one week. Each domain of DASS-21 contained seven items with a 4-point Likert scale response indicating the severity of each state. The students assigned scores of 0 (did not apply

to me) to 3 (applied to me most of the time) for each item. Then, the total score for each domain was multiplied by two. The cut-off scores for probable depression, anxiety and stress were  $\geq 10$ ,  $\geq 8$  and  $\geq 15$ , respectively (Musa et al., 2007). In Malaysia, existing adolescent health screening programmes used DASS-21 for secondary school students. The school counsellors routinely screened Form 4 students and reviewed the results to identify students with potential psychological problems according to the standard procedure. Consequently, the counsellors may refer students who need further attention to the school medical team or respective public health clinics.

### **Ethical Considerations**

All respondents provided verbal consent and written consent from their parents. Ethical clearance was sought from the Research Ethics Committee of University Kebangsaan Malaysia, the Ministry of Education Malaysia, and the Negeri Sembilan State Education Department. Further, the researchers obtained permission to conduct the study at the schools from the respective school principals. Consent to use SAS-SV and the Malay version DASS-21 was obtained from the authors (Kwon et al., 2013; Musa et al., 2007). Specific authorisation to translate SAS-SV into the Malay language and validate the Malay version of SAS-SV was also acquired from the original author (Kwon et al., 2013). Since the screening for probable depression, anxiety and stress was conducted among the respondents, the respective school

counsellors assessed and observed those with potential psychological problems per routine practice.

### Statistical Analysis

The researchers analysed the data collected with the IBM SPSS Statistics version 23. This study's dependent variable was PSU, and all other variables that could influence smartphone use were independent. Descriptive statistics were performed on all variables. Simple logistic regression (SLR) was performed to identify independent variables with a  $p$  value of  $<0.25$ , which was subsequently subjected to the multiple logistic regression (MLR) analysis. The variables with clinical significance were also included in the MLR. The primary aim of the MLR is to determine factors independently associated with PSU after other variables in the model were controlled. Since there are overlapping primary independent variables, namely, the number of psychological problems and specific psychological problems (probable depression, anxiety and stress), two models of MLR were performed. Model 1 examined the association of PSU with specific psychological problems (probable depression, anxiety and stress) when sociodemographic factors, usage patterns, usage purpose, and parental usage limitations were controlled. In contrast, Model 2 assessed the association of PSU with the number of psychological problems when similar confounding factors were adjusted. The association was significant at a  $p$  value of  $<0.05$ .

## RESULTS

### Characteristics of Smartphone Users and Patterns of Usage

Out of 598 Form Four students from three national secondary schools, 141 students were excluded from the study because they were from remedial or special education classes (108 students), previously diagnosed with stress (3 students) and absent on the day of data collection (30 students; Figure 1). Four hundred fifty-seven students fulfilled the study criteria and returned the parental consent form during the data collection day. This study recorded a response rate of 96.0%, as 18 students did not complete the questionnaire. Further, 94.3% of 439 students were smartphone users (414 students).

Among 414 smartphone users, the majority were females (62.1%), Malays (69.8%), had at least one parent or guardian unemployed (65.5%) and came from families who earned  $\leq$ RM 4000 (~USD 930) a month (78.3%; Table 1). Most of them had no past medical history (90.3%).

Table 2 shows the pattern and purpose of smartphone use. In this study, four in five adolescents had self-owned smartphones (82.9%) and spent  $<$ RM50 per month for smartphone usage (85.7%), and most students used money from others to pay for the expenditure (63.5%). The median (IQR) duration of smartphone use in a day was 4.0 (4.0) hours (minimum: one hour, maximum: 13 hours). About two-thirds (42.8%) of them did not receive parental limitations on smartphone usage. In addition, the top two smartphone functions that adolescents

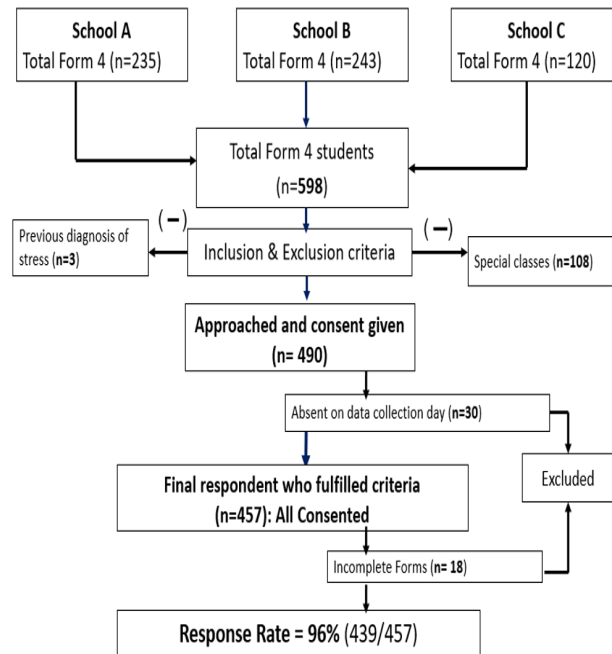


Figure 1. Sampling flowchart

Table 1

*Sociodemographic and clinical characteristics of smartphone users (N=414)*

Variables	Overall		Smartphone overused		Crude OR <sup>a</sup> 95% CI	<i>p</i> value <sup>a</sup>
	<i>n</i> (%)	SAS-SV <sup>§</sup>	Yes <sup>#</sup>	No		
	or Median (IQR)	Score Median (IQR)	<i>n</i> (%) or Median (IQR)	<i>n</i> (%) or Median (IQR)		
<b>Gender</b>						
Male	157 (37.9)	29.0 (11.0)	68 (43.3)	89 (56.7)	1	0.957
Female	257 (62.1)	31.0 (13.0)	112 (43.6)	145 (56.4)	1.01 (0.68-1.51)	
<b>Race</b>						
Non-Malay	125 (30.2)	27.0 (8.0)	33 (26.4)	92 (73.6)	1	<0.001*
Malay	289 (69.8)	32.0 (12.0)	147 (50.9)	142 (49.1)	2.89 (1.82-4.57)	
<b>Monthly family income</b>						
<RM2000	177 (42.8)	30.0 (14.0)	82 (46.3)	95 (53.7)	0.94 (0.61-1.47)	0.797
RM2000- RM4000	147 (35.5)	31.0 (13.0)	66 (44.9)	81 (55.1)		

Table 1 (Continue)

Variables	Overall		Smartphone overused		Crude OR <sup>a</sup> 95% CI	p value <sup>a</sup>
	n (%) or Median (IQR)	SAS-SV <sup>§</sup> Score Median (IQR)	Yes <sup>#</sup> n (%) or Median (IQR)	No n (%) or Median (IQR)		
<b>Monthly family income</b>						
>RM4000	90 (21.7)	28.5 (10.0)	32 (35.6)	58 (64.4)	0.64 (0.38-1.08)	0.094
<b>Parents' status of employment</b>						
At least one parent/guardian is unemployed	271 (65.5)	30.0 (13.0)	118 (43.5)	153 (56.5)	1	
Both parents/guardians are employed	143 (34.5)	31.0 (12.0)	62 (43.4)	81 (56.6)	0.99 (0.66-1.49)	0.971
<b>Past medical history</b>						
No	374 (90.3)	30.0 (12.0)	162 (43.3)	212 (56.7)	1	
Yes	40 (9.7)	30.5 (18.0)	18 (45.0)	22 (55.0)	1.07 (0.56-2.06)	0.838
<b>Possible depression</b>						
No	283 (68.4)	28.0 (11.0)	107 (37.8)	176 (62.2)	1	
Yes	131 (31.6)	34.0 (12.0)	73 (55.7)	58 (44.3)	2.07 (1.36-3.15)	0.001*
<b>Possible anxiety</b>						
No	214 (51.7)	28.5 (12.0)	84 (39.3)	130 (60.7)	1	
Yes	200 (48.3)	31.5 (13.0)	96 (48.0)	104 (52.0)	1.43 (0.97-2.11)	0.073
<b>Possible stress</b>						
No	303 (73.2)	29.0 (11.0)	118 (38.9)	185 (61.1)	1	
Yes	111 (26.8)	34.0 (13.0)	62 (55.9)	49 (44.1)	1.98 (1.28-3.08)	0.002*
<b>Number of psychological problems</b>	1.0 (2.0)		1.0 (3.0)	1.0 (2.0)	1.34 (1.13-1.59)	0.001*

Note. §SAS-SV: smartphone addiction scale-short version (range of total score: 10-60, midpoint: 35);  
 #Cut-off point score for smartphone addiction: ≥ 31 (male), ≥ 33 (female); \*: Simple logistic regression;

\*Significance:  $p < 0.05$

primarily used were for (1) socialising and communication, including social networking (95.4%), and (2) entertainment, including gaming, listening to music and watching videos (91.3%).

Table 2

*Pattern and purpose of smartphone usage (N=414)*

Variables	Overall		Smartphone overused		Crude OR <sup>a</sup> 95% CI	<i>p</i> value <sup>a</sup>
	<i>n</i> (%) or Median (IQR)	SAS-SV <sup>§</sup> Score Median (IQR)	Yes <sup>#</sup> <i>n</i> (%) or Median (IQR)	No <i>n</i> (%) or Median (IQR)		
Smartphone ownership						
Owned by others	71 (17.1)	26.0 (14.0)	22 (31.0)	49 (69.0)	1	
Self-owned	343 (82.9)	31.0 (11.0)	158 (46.1)	185 (53.9)	1.90 (1.10-3.28)	0.021*
Daily usage (hours/day)	4.0 (4.0)	N/A	6.0 (4.0)	4.0 (3.0)	1.22 (1.14-1.31)	<0.001*
Limitations on usage by parents/ guardian						
Yes	237 (57.2)	28.0 (13.0)	90 (38.0)	147 (62.0)	1	
No	177 (42.8)	32.0 (12.0)	90 (50.8)	87 (49.2)	1.69 (1.14-2.51)	0.009*
Cost of monthly usage						
<RM50	355 (85.7)	29.0 (12.0)	147 (41.4)	208 (58.6)	1	
≥RM50	59 (14.3)	33.0 (13.0)	33 (55.9)	26 (44.1)	1.80 (1.03-3.13)	0.039*
Source of money spent on smartphone						
Others	263 (63.5)	29.0 (13.0)	103 (39.2)	160 (60.8)	1	
Own money	151 (36.5)	32.0 (12.0)	77 (51.0)	74 (49.0)	1.62 (1.08-2.42)	0.020*
Mostly used for entertainment (gaming, listening to music and watching videos)						
No	36 (8.7)	27.0 (16.0)	13 (36.1)	23 (63.9)	1	

Table 2 (Continue)

Variables	Overall		Smartphone overused		Crude OR <sup>a</sup> 95% CI	<i>p</i> value <sup>a</sup>
	<i>n</i> (%)	SAS-SV <sup>§</sup>	Yes <sup>#</sup>	No		
	or Median (IQR)	Score Median (IQR)	<i>n</i> (%) or Median (IQR)	<i>n</i> (%) or Median (IQR)		
Mostly used for entertainment (gaming, listening to music and watching videos)						
Yes	378 (91.3)	30.0 (12.0)	211 (55.8)	167 (44.2)	1.40 (0.69-2.85)	0.352
Mostly used for socialising and communication						
No	19 (4.6)	20.0 (9.0)	4 (21.1)	15 (78.9)	1	
Yes	395 (95.4)	30.0 (12.0)	176 (44.6)	219 (55.4)	3.01 (0.98-9.24)	0.054
Mostly used for photography and videography/graphics						
No	140 (33.8)	28.0 (13.0)	51 (36.4)	89 (63.6)	1	
Yes	274 (66.2)	31.0 (12.0)	129 (47.1)	145 (52.9)	1.55 (1.02-2.36)	0.039*
Mostly used for web browsing for information						
No	149 (36.0)	30.0 (14.0)	65 (43.6)	84 (56.4)	1	
Yes	265 (64.0)	30.0 (12.0)	115 (43.4)	150 (56.6)	0.99 (0.66-1.49)	0.964

Note. §SAS-SV: smartphone addiction scale-short version (range of total score: 10-60, midpoint: 35); #Cut-off point score for smartphone addiction: ≥31 (male), ≥33 (female); <sup>a</sup>: Simple logistic regression; \*Significance:  $p < 0.05$ ; N/A: Not applicable

Probable depression, anxiety and stress among adolescent smartphone users were prevalent at 31.6%, 48.3% and 26.8%, respectively (Table 1). Most of them suffered psychological problems with mild to moderate severity (Figure 3). Almost

three in five adolescents (232/414) had at least one psychological problem, 13.0% (54/414) had two psychological problems, and 18.8% (78/414) had three psychological problems (Figure 2).

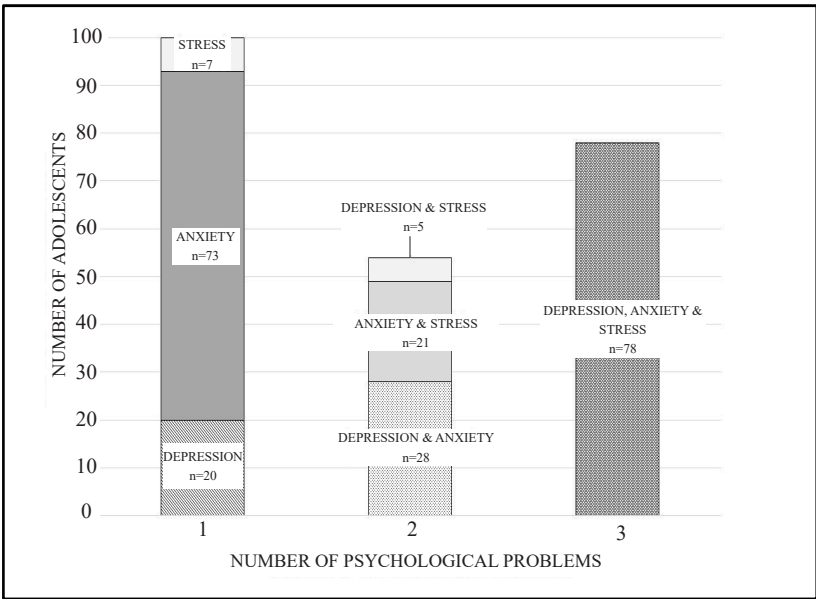


Figure 2. Psychological problems of adolescent smartphone users (n=232)

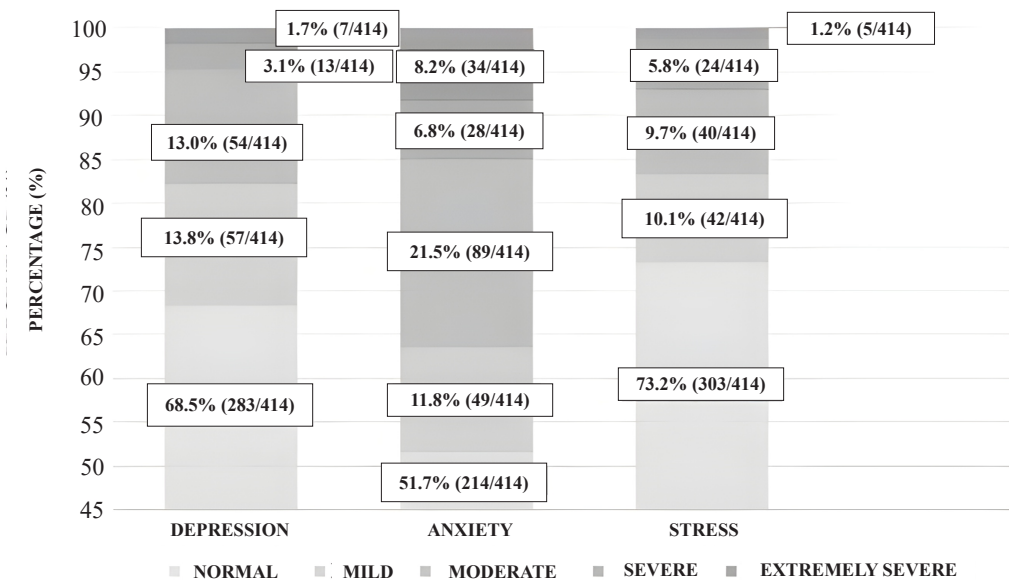


Figure 3. Prevalence of psychological problems and severity among adolescents (N=414)

**Problematic Smartphone Use, Its Usage Pattern and Associated Factors**

Table 2 shows the difference in the pattern and purpose of smartphone use between

regular users and those with PSU. The prevalence of PSU was 43.5% (234/414). Compared to regular users, more adolescents with PSU had self-owned smartphones

(PSU: 46.1% *versus* Non-PSU: 31.0%,  $p=0.021$ ) and used their own money to pay for monthly usage costs (PSU: 51.0% *versus* Non-PSU: 39.2%,  $p=0.020$ ). Those with PSU recorded more prolonged daily usage (PSU: Median 6.0 (IQR 4.0) hours *versus* Non-PSU: Median 4.0 (IQR 3.0) hours,  $p<0.001$ ). More adolescents with PSU spent  $\geq$ RM50 a month on usage (PSU: 46.1% *versus* Non-PSU: 31.0%,  $p=0.039$ ) and had no parental limitations on their usage (PSU: 50.8% *versus* Non-PSU: 38.0%,  $p=0.009$ ). Meanwhile, only one smartphone function significantly differed between regular and problematic smartphone users. More adolescents with PSU used smartphones for photography and videography/graphics (PSU: 47.1% *versus* Non-PSU: 36.4%,  $p=0.039$ ) compared to regular users.

Based on SLR, the following factors were included in both models of MLR: ethnicity ( $p<0.001$ ), smartphone ownership ( $p=0.021$ ), daily usage ( $p<0.001$ ), parental usage limitations ( $p=0.009$ ), cost of monthly usage ( $p=0.039$ ), source of money spent on smartphones ( $p=0.020$ ), and primary use for photography and videography/graphics ( $p=0.039$ ; Tables 1 and 2). Even though other purposes of smartphone use were not statistically significant, they were still included in both models of MLR due to their clinical importance in influencing smartphone use.

In both MLR models (Tables 3 and 4), Malay ethnicity, higher daily usage and monthly usage costs of  $\geq$ RM50 were significantly associated with PSU. Both

models did not show the significance of any smartphone function in influencing excessive smartphone use. In Model 1 (Table 3), the MLR showed that Malay adolescents had 2.53 times the odds of using smartphones excessively than non-Malays ( $p<0.001$ ). An hour increase in smartphone use raised the odds for adolescents with PSU by 1.15 ( $p<0.001$ ), and those who spent  $\geq$ RM50 a month on usage had 1.98 risks of having PSU than those who spent lesser ( $p=0.031$ ). No specific psychological problems (depression, anxiety or stress) were significantly associated with PSU. Model 2 (Table 4) shows that Malay adolescents had 2.54 times the odds of having PSU than non-Malays ( $p<0.001$ ). An hour increase in usage raised the odds for adolescents with PSU by 1.15 ( $p<0.001$ ), and those with monthly usage costs of  $\geq$ RM50 had twice the risk of having PSU than those with  $<$ RM50 monthly usage costs ( $p=0.029$ ). The number of psychological problems suffered by the adolescents was significantly associated with PSU ( $p=0.011$ ). With an increase of one psychological problem, the odds for PSU increased by 1.28. The variance explained by Model 1 and Model 2 was 22% and 21%, respectively.

## DISCUSSION

This study aims to determine the prevalence of PSU among secondary school adolescents and examine the relationship between PSU and psychological problems. Simultaneously, the researchers assessed the respondents' usage patterns and purpose. Most adolescents own smartphones,

Table 3

*Model 1 multiple logistic regression: Factors associated with smartphone overuse (N=414)*

Variables	$\beta$	S.E.	Wald Statistic (df)	Adjusted OR <sup>a</sup> (95% CI)	<i>p</i> value
<b>Race</b>					
Malay [Ref.: Non-Malay]	0.93	0.26	12.69 (1)	2.53 (1.52-4.23)	<0.001*
<b>Monthly family income</b>					
RM2001-RM4000 [Ref.: ≤RM2000]	-0.11	0.25	0.21 (1)	0.89 (0.55-1.46)	0.649
>RM4000 [Ref.: ≤RM2000]	-0.50	0.30	2.76 (1)	0.61 (0.34-1.09)	0.097
<b>Smartphone ownership</b>					
Self-owned [Ref.: Owned by others]	0.19	0.33	0.31 (1)	1.20 (0.63-2.31)	0.577
<b>Daily usage (hours/day)</b>	0.14	0.04	12.77 (1)	1.15 (1.07-1.24)	<0.001*
<b>Limitations on usage by parents/guardian</b>					
No [Ref.: Yes]	0.24	0.23	1.14 (1)	1.27 (0.82-1.98)	0.286
<b>Cost of monthly usage</b>					
≥RM50 [Ref.: <RM50]	0.69	0.32	4.65 (1)	1.98 (1.06-3.70)	0.031*
<b>Source of money spent on smartphone</b>					
Own money [Ref.: Others]	0.25	0.24	1.10 (1)	1.28 (0.81-2.03)	0.295
<b>Mostly used for entertainment</b>					
Yes [Ref.: No]	0.09	0.41	0.05 (1)	1.10 (0.49-2.44)	0.823
<b>Mostly used for socialising and communication</b>					
Yes [Ref.: No]	0.53	0.63	0.71 (1)	1.70 (0.50-5.79)	0.398
<b>Mostly used for photography and videography/graphics</b>					
Yes [Ref.: No]	0.22	0.25	0.81 (1)	1.25 (0.77-2.04)	0.369

Table 3 (Continue)

Variables	$\beta$	S.E.	Wald Statistic (df)	Adjusted OR <sup>a</sup> (95% CI)	<i>p</i> value
<b>Mostly used for web browsing for information</b>					
Yes [Ref.: No]	-0.28	0.24	1.31 (1)	0.76 (0.47-1.22)	0.252
<b>Possible depression</b>					
Yes [Ref.: No]	0.49	0.29	2.80 (1)	1.63 (0.92-2.90)	0.094
<b>Possible anxiety</b>					
Yes [Ref.: No]	-0.16	0.26	0.36 (1)	0.85 (0.51-1.43)	0.547
<b>Possible stress</b>					
Yes [Ref.: No]	0.42	0.31	1.81 (1)	1.52 (0.83-2.82)	0.178

Note. <sup>a</sup>Multiple logistic regression: Enter mode; Negekerke  $R^2=0.22$ ; \*Significance:  $p<0.05$

Table 4

Model 2 multiple logistic regression: Factors associated with smartphone overuse ( $N=414$ )

Variables	$\beta$	S.E.	Wald Statistic (df)	Adjusted OR <sup>a</sup> (95% CI)	<i>p</i> value
<b>Race</b>					
Malay [Ref.: Non-Malay]	0.93	0.26	12.89 (1)	2.54 (1.53-4.22)	<0.001*
<b>Monthly family income</b>					
RM2001-RM4000 [Ref.: ≤RM2000]	-0.09	0.25	0.13 (1)	0.91 (0.56-1.49)	0.718
>RM4000 [Ref.: ≤RM2000]	-0.47	0.30	2.51 (1)	0.63 (0.35-1.12)	0.113
<b>Smartphone ownership</b>					
Self-owned [Ref.: Owned by others]	0.20	0.33	0.38 (1)	1.23 (0.64-2.34)	0.536
<b>Daily usage (hours/day)</b>					
	0.14	0.04	12.31 (1)	1.15 (1.06-1.24)	<0.001*
<b>Limitations on usage by parents/guardian</b>					
No [Ref.: Yes]	0.27	0.23	1.44 (1)	1.31 (0.84-2.03)	0.231

Table 4 (Continue)

Variables	$\beta$	S.E.	Wald Statistic (df)	Adjusted OR <sup>a</sup> (95% CI)	<i>p</i> value
<b>Cost of monthly usage</b>					
≥RM50 [Ref.: <RM50]	0.69	0.32	4.78 (1)	2.00 (1.07-3.72)	<b>0.029*</b>
<b>Source of money spent on smartphone</b>					
Own money [Ref.: Others]	0.27	0.23	1.35 (1)	1.31 (0.83-2.08)	0.246
<b>Mostly used for entertainment</b>					
Yes [Ref.: No]	0.06	0.41	0.02 (1)	1.06 (0.48-2.36)	0.884
<b>Mostly used for socialising and communication</b>					
Yes [Ref.: No]	0.51	0.63	0.66 (1)	1.67 (0.49-5.72)	0.415
<b>Mostly used for photography and videography/graphics</b>					
Yes [Ref.: No]	0.21	0.25	0.71 (1)	1.23 (0.76-2.00)	0.400
<b>Mostly used for web browsing for information</b>					
Yes [Ref.: No]	-0.32	0.24	1.74 (1)	0.73 (0.46-1.77)	0.187
<b>Number of psychological problems</b>	0.24	0.10	6.40 (1)	1.28 (1.06-1.54)	0.011*

Note. <sup>a</sup>Multiple logistic regression: Enter mode; Negekerke  $R^2=0.21$ ; \*Significance:  $p<0.05$

although many depend on others to support their usage costs. Many adolescents spent about <RM50 (<USD12) a month, deemed affordable by them and their families. The average daily use of smartphones is four hours, lower than that of Malaysian undergraduates with five to eight hours of daily use (Hadi et al., 2019; Ismail et al., 2020; Nasser et al., 2020). Most adolescents use smartphones for socialising,

communication and entertainment, with no significant difference between regular and problematic users. In contrast, adolescents in Switzerland spend one to two hours daily on their smartphones, although the most common smartphone function is still social networking (Haug et al., 2015). This finding indicates the fundamental smartphone function that suits the daily needs of adolescents.

In this study, two in five adolescents had PSU, with an average daily usage of six hours. This finding is comparable to recent studies among adolescents aged 7–18 (Coco et al., 2020; Nor et al., 2020). Many problematic users spent  $\geq$ RM50 ( $\geq$ USD12) a month of their own money on smartphone usage. The results show a significant association between higher monthly usage cost and PSU, which was not found in most other studies. A study in Spain found a positive association between family economy, intensive phone use and cell phone dependence, measured by the frequency of usage and monthly phone bill (Sánchez-Martínez & Otero, 2009). The lack of similar findings from other studies may be due to the non-inclusion of monthly costs and differing costs of smartphone use in other countries. None of the usage patterns and purposes significantly influenced PSU when other confounding factors were controlled, except for high daily usage time and monthly usage costs. The findings highlight that excessive use is a salient feature of behavioural addiction supported in previous studies (Buctot et al., 2020; Cha & Seo, 2018; Fischer-Grote et al., 2019; Haug et al., 2015; C. Lee & Lee, 2017). Moreover, the findings in the present study did not support previous studies that postulate PSU as an addiction to the functions offered by smartphones (Fischer-Grote et al., 2019; Panova & Carbonell, 2018; Yu & Sussman, 2020). Smartphone addiction is regarded as a subset of technological addiction, and smartphones only act as a medium that facilitates such addiction (Fischer-Grote et

al., 2019; Panova & Carbonell, 2018; Yu & Sussman, 2020).

Further findings show that psychological problems are common among secondary school students in this study. The prevalence of depression (31.6%), anxiety (48.3%) and stress (26.8%) were higher than the national prevalence (Institute for Public Health [IPH], 2017). In the National Health and Morbidity Survey (IPH, 2017) that utilised DASS-21, the prevalence of depression, anxiety and stress among Malaysian adolescents aged 13 to 17 were 18.3%, 39.7% and 9.6%, respectively. This research also indicates that three in ten adolescents had multiple psychological problems. These findings were alarming, but the reasons for these prevalent psychological problems remain unanswered as the study did not examine risk factors for the psychological problems. However, this study demonstrates non-significant associations of PSU with each of the psychological problems when other confounding factors are controlled. This finding differs from other studies which found a significant association between PSU and psychological problems (Buctot et al., 2020; Elhai et al., 2018; Hadi et al., 2019; Haug et al., 2015; Ikeda & Nakamura, 2014; Ithnain et al., 2018; Kim et al., 2020; Nasser et al., 2020; Nor et al., 2020).

As PSU may indicate overused of specific functions of the smartphone, such as the internet or social media use, the non-significant finding of PSU and psychological problems also differs from previous studies on Internet addiction, sleep disturbances and psychological problems

such as depression and anxiety (Ho et al., 2014; Zhang et al., 2017). Interestingly, the number of psychological problems suffered by adolescents was significantly and independently associated with PSU. Those with more psychological problems were more likely to have PSU. This finding shows that adolescents with multiple psychological problems are more vulnerable to PSU and may have to utilise their smartphones as a coping mechanism. This previous finding also suggests that the relationship between PSU and psychological problems is more complex and cannot be simply explained by depression, anxiety or stress. Instead, it is multifaceted beyond the usual causal relationships where psychological problems are postulated as risk factors or consequences of PSU (Coyne et al., 2020; Jo et al., 2020; Jun, 2016, 2019; Lapierre et al., 2019; Liu et al., 2019; Park et al., 2019; Thomée et al., 2011).

The significant association between PSU and the number of psychological problems found in this study suggests that users with multiple psychological problems could excessively use smartphones to relieve boredom as an escape mechanism or deviation from real-life problems to suppress their emotions (Elhai et al., 2016, 2018). Since most adolescents have psychological problems with mild to moderate severity, it is postulated that the problems might not be highly severe to cause significant anhedonia, virtual social withdrawal and reduced smartphone use. Without an active coping mechanism, this maladaptive behaviour may, in turn, worsen their problems as

PSU could lead to sleep deprivation, loneliness, interpersonal problems and poor school outcomes (Jun, 2019; Lapierre et al., 2019; C. Lee & Lee, 2017; Liu et al., 2019; Thomée et al., 2011). Therefore, the underlying psychopathological mechanism that explains the relationship between PSU and psychological problems among adolescents requires further exploration in future studies.

Since this study is one of the first in Malaysia to assess PSU and its relationship with psychological problems among secondary school adolescents, the findings provide valuable insight into curbing smartphone addiction among adolescents. Another strength of this study is the validated SAS-SV questionnaire utilised in many other studies worldwide. The Malay version of SAS-SV was validated among secondary school adolescents and thus can be used in future research to identify individuals at high risk for PSU.

Nevertheless, this study has several limitations. It is cross-sectional in design and involves 15 to 16-year-olds adolescents from national schools. Thus, the findings are not generally applicable to all Malaysian adolescents. Due to the complexity of the relationship between the variables, a mixed-method design is more appropriate for a qualitative and quantitative study of PSU. Future studies should also include multiple factors that simultaneously influence PSU and psychological problems to provide an understanding of the interconnection between the factors.

## CONCLUSION

The problematic smartphone uses, and psychological problems are prevalent among secondary school adolescents. A substantial proportion of them suffered not from one but multiple psychological problems. The significant factors associated with PSU indicate excessive and pervasive smartphone use despite having multiple psychological problems. None of the smartphone functions had a significant association with PSU. The conflicting findings also show a non-significant association of PSU with psychological problems (depression, anxiety, or stress). However, a significant association with the number of psychological problems suggest a complex relationship between these entities that require further studies. Nevertheless, the prevalence of PSU and psychological problems among adolescents indicate the need for screening programmes to identify those at risk for appropriate intervention.

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## **The Portrayal of Women in the Works of Sugiarti Siswadi as the Manifestation of Lekra and Gerwani Ideology**

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### **ABSTRACT**

Sugiarti Siswadi was regarded as one of the most influential writers in Indonesia during the 1950s and 1960s. She was also known as an activist in the Lembaga Kebudayaan Rakyat (People's Cultural Institute-Lekra) and Gerakan Wanita Indonesia (Indonesian Women's Movement-Gerwani), both of which were closely associated with the now-defunct Indonesian Communist Party (PKI). This study analyzes three of Sugiarti's short stories: "Jang Kesepian" (The Lonely One; 1960), "Anak2 Muda" (Young People; 1961), and "Si Udin Ketua Klas" (Udin, Class Captain; 1961). The three stories, published in *Api Kartini* magazine, address issues about the family as a social institution. Through the plot and characterization of these stories, Sugiarti dismantles and reverses gender roles to express her views as an activist and a woman. This study shows that these stories do not put male and female characters into binary opposition. We argue that the three stories reflect Sugiarti's agency in extending her feminist ideas seen through the perspective of a Lekra/Gerwani activist. As such, she enriched gender discourse in Indonesia during the 1950s and 1960s, a recurring theme in her works.

*Keywords:* Activist, gender, Indonesian women writers, Lekra, Sugiarti Siswadi, women

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### **INTRODUCTION**

During Guided Democracy (1959–1966), Soekarno was a single leader who determined Indonesia's political inclinations. As Ricklefs (2010) underlines that since 1960, the Manipol-USDEK (abbreviation of the 1945 Constitution, Socialism, Democracy, Economy, and National Identity Political Manifesto) served as the main principle that guided the socio-political life in Indonesia.

Furthermore, as Caldwell and Utrecht (2011) stated, Soekarno incorporated the pre-existing Nasakom (Nationalist, Religious, and Communist) ideology into the concept of Manipol-USDEK and used it as a basis to implement a national work program. Furthermore, Abdulgani (1961) described Manipol-USDEK as a guiding principle based on which the government was run under guided democracy.

During the period, the Communist Party, which obtained the most popular votes in the 1955 General Elections, deployed its wing organizations to support the concept of Manipol-USDEK that Soekarno promoted. A wing organization frequently used by the Communist Party to run the mission was an arts and culture institute whose operation and work followed the party's ideology. Engaging the art and cultural institute was a strategic avenue to create a socialist Indonesian society that conformed to the Indonesian identity envisioned by the ruling government. According to Adryamarthanino (2011), Indonesian socialism was adopted to create a culturally characterized, politically and economically sovereign society. The envisioned Indonesian identity had to conform to the values of Pancasila, which manifested the Indonesian culture. All these ideals formed the skeleton of the Indonesian political structure during the era of guided democracy. However, as Anderson (1996) noted, Indonesia was heavily influenced by Javanese political culture, which shaped the political structure and culture during Soekarno's administration in the guided democracy period (1959-1966).

Chisaan (2008) argued that the way the wing organization structured Indonesian identity indicated the extent they exploited arts and culture as a means of political action. The art and cultural institute were used not only by the ruling party but, as Lindsay (2011) stated, also by artists and culture enthusiasts seeking people with a common ideology and a creative space to express their art. Similarly, Foulcher (2011) noted that in the period (the 1950s-1960s), the confrontation concerning Indonesian culture was taken up as a strategy to respond to the prevailing national and international political situation. The strategy was widely adopted by the Indonesian Communist Party (PKI) through Lekra (People's Cultural Institute), which was established as a mouthpiece to channel the party's interest in art and culture.

PKI used Lekra to win its constituents over during the political contestation leading to the 1955 elections. PKI capitalized on Lekra to raise issues on arts and culture. Lekra was initiated by D. N. Aidit, M. S. Ashar, A. S. Dharta, and Njoto on August 17, 1959, during an event that was considered its first congress in Solo, Central Java, and brought a resolution concerning arts and culture to pass. The resolution was based on the particular formulation labeled as the 1-5-1 principle that pinpointed the tenet "the people as the only creators of Culture" through which precept Lekra members produced their work (Aria & Dahlan, 2008b). Sugiarti Siswadi was among the high-profile Lekra writers.

In this article, we look into the works of Sugiarti Siswadi, taking into account her status as a member of Lekra/Gerwani and as a woman. Sugiarti Siswadi was an important Lekra figure. Setiawan (2004) conceded in his memoir how profoundly he admired Sugiarti. In his view, Sugiarti was another prominent leftist writer besides Rukiah Kertapati. Sugiarti and Rukiah were prominent figures in Lekra and initiated *Api Kartini* magazine, which was later officially established by Gerwani's leadership.

Gerwani (Gerakan Wanita Indonesia) was established as Gerwis (Gerakan Wanita Sedar), which, according to Wieringa, conformed to PKI's policy following a Gerwani congress in 1954 (Wieringa, 2003). Gerwani focused on education, and *Api Kartini* magazine was a women's periodical issued as part of Gerwani's mission. Wieringa said *Api Kartini* magazine addressed Gerwani's middle-class and Indonesian women in general. Its focus was to educate its readers on women's rights (Wieringa, 1999). According to McRobbie (1994), *Api Kartini* delivered ideas on the construction of femininity, of which subcodes included Roman code, personal lives, fashion, and music. Sugiarti used the magazine as her vehicle to employ the agency to defend women's rights in Indonesia during the 1950s and 1960s.

The two issues of *Api Kartini* (1959-1961) had 15 of Sugiarti's writings, which comprised 11 stories, one poem, and three essays. This study examines the short stories "Jang Kesepian" (The Lonely One; 1960), "Anak2 Muda" (Young People; 1961), and

"Si Udin Ketua Klas" (Udin, Class Captain; 1961). We chose the three short stories because they were written between 1960 and 1961 during the guided democracy era. The situation presented in the stories illustrates the socio-political context prevalent during the Guided Democracy era, in which administration was based on the Manipol-USDEK ideology. We consider the selection representative of Sugiarti's ideology as an activist and a woman during the period.

### **Sugiarti Siswadi: Woman (Writer) of Lekra/Gerwani/PKI**

Few have been documented about the life of Sugiarti Siswadi. Still, several writers of her generation penned insufficient stories implied in her writings and personal notes about her. Rosidi (2013) accounted for Sugiarti, a woman writer who mostly wrote short stories in 1961 for Lekra's publication. Some of her aliases were Sis., S.S., and S. Wati. Sugiarti actively contributed to and edited for several PKI-associated print media, such as *Api Kartini*, *Harian Rakjat*, *Zaman Baru*, and *Lentera*, and was a member of Lekra's central board.

According to Aria and Dahlan (2008a), Sugiarti played a significant role in founding the publishing houses of Jajasan Pembaruan and Lekra. She was among the writers in *Jajasan Pembaruan* who translated the works of left-leaning writers. Sugiarti adapted a short story by Ivan Osirikov entitled Indonesian "Musim Panas Budak", translated Nu Nam's short story "Tjinta Pertama" (1961) and Nguyen Cong Hoan's "Madjikan" (1965), showing her prowess

in languages. One of her works, a short fiction collection *Sorga Dibumi* (1964), was published by Lekra. However, Sugiarti also wrote stories for children aiming at imbuing a lesson that kids are the future of a nation, in addition to paying attention to stories of political themes. Consequently, (women) mothers have significant roles in Sugiarti's works. Her statement emphasizes purposes, "Our children's literature must call attention to these passions for the motherland, humans' work, peace, and parents, all of which crystallize into the passion for socialism" (Siswadi, 1963, p. 3).

One of the "passions" is concerned with "parents," which signifies a critical point to uphold the five desires ("pantja tjinta"). Thus, it is relevant to examine how the stories represented parents' capacities and the construction of gender roles in Indonesia in the 1950s and 1960s. Given her weighty status in Lekra/Gerwani, Sugiarti lays bare ideas relevant to feminism in her works.

## LITERATURE REVIEW

Several studies have been written on works by Indonesian women writers in the post-Independence (1950-1960) period. Shackford-Bradley (2000), Lawrence (2012), Mumtaz (2014), Priyatna (2016, 2018a), Wirawan (2018), and Isabella (2022), for example, focus on the dynamics of interactions among women in private and public spheres, this research delves into the impacts of feminist ideas on the development of women's subjectivity and their social environment. Shackford-Bradley (2000), Lawrence (2012), and Wirawan

(2018) analyze Rukiah Kertapati's novel *Kedjatuhan dan Hati* and explore how the women characters contribute to their country after its independence. Shackford-Bradley (2000) categorizes works by these women as autobiographical fiction, a literary genre which, in her view, is well suited for conveying feminist ideas with local color. Mumtaz's (2014) study analyzes works by Sugiarti Siswati, who, like Rukiah, was also involved in Lekra/Gerwani movement. Mumtaz argues that the works of the two women writers are inseparable from their organizational background and that their feminist views emerge in their works as part of their representation. Meanwhile, Isabella (2022) discusses Sugiarti's poem "Kepada Sahabat Asia-Afrika" (1961), in which she sees how Sugiarti's activism reflects the spirit of the Asian-African Conference and the forum's idea to foster solidarity among writers and to encourage the people of Asian and African nations to fight against colonialism.

In her two studies, Priyatna discusses Suwarsih Djojopustito's works from the 1950s, focusing on the issues of gender roles, sexuality, and autobiographical narrative (Priyatna, 2016, 2018a). As Priyatna shows, Suwarsih's works feature social documentation of how women are depicted as subjects who play various roles in constructing post-Independence Indonesia. In analyzing Suwarsih's works, Priyatna frames women's problems and transgression within an approach that views the works as belonging to a genre that Priyatna calls autobiographical narratives.

Research on women writers from the 1950s and 1960s mainly discusses works by Rukiah Kertapati and Suwarsih Djojopustito. More research, however, needs to be conducted to study Sugiarti Siswadi and her works. In our view, Sugiarti Siswadi and her works are worthy of critical review, considering her ideas as both a writer and woman activist. It is in this context that our study offers its critical significance.

Sugiarti had an important role in Lekra as a woman writer and member of the organization's central leadership (Aria & Dahlan, 2008b). Her insights on women's issues aligned with Gerwani's mission to heighten awareness of women's rights (Wieringa, 1999), making her works important to examine. In this article, we discuss how Sugiarti presents her feminist ideas by depicting women's subjectivity in domestic and public spheres as wives, mothers, and Lekra/Gerwani activists.

## METHODS

Theories of feminist literary criticism, feminist narratology, and feminist politics inform the method used in this study. A close reading of the texts is needed to identify and unveil their layers of covert and overt meanings, motifs, and ideology (Barry, 2002). Rigorous attention to parts of the texts which, from a feminist perspective, show symptomatic textual and narratological characteristics contributing to conveying the themes typically conveyed by Lekra writers.

This study refers to the initial editions of the stories published in *Api Kartini* magazine (1959-1961 issues), anthologies accessed

from the magazine archives and rare books at the Indonesian National Library, and other supporting sources. The spelling used in the decade in which the works studied were published and the damage found on some pages make reading the stories interestingly challenging.

The literary texts studied were all written within a feminist framework. Their analysis must be accompanied by a method that accommodates the reading of what Cixous terms *écriture féminine* (Cixous et al., 1976). The overall analysis aims to describe how Sugiarti Siswadi's works textually and narratively convey her views on political issues in general and women's issues in particular.

## RESULTS AND DISCUSSION

### Sugiarti's Feminism: From the Private to the Public

Sugiarti Siswadi is regarded as one of the most influential writers of her generation. Considering her position in Lekra's central body, she was guided by the principles and methods Lekra promoted in composing her works. As such, her works amalgamate the political and the personal, the traces of which can be recognized in the short stories "Jang Kesepian" (The Lonely One; 1960), "Si Udin ketua klas" (Udin, Class Captain; 1961), "Anak2 Muda" (Young People; 1961). The three stories discuss issues on economic conditions, the middle class, gender, and motherhood.

The short story "Jang Kesepian" is unusual in terms of ideas and the application of an external narrator through a character

named Sudjono. “Jang Kesian” evokes the feeling of loneliness that Sudjono, the protagonist, must grapple with. The character lives in a family where the mother earns the livelihood, and the father can no longer bring home the groceries. As a result, the protagonist loses his attitude of reverence toward the passively apathetic father.

The situation thus posits him in a dilemma. On the one hand, he applauds the mother for doing what she does. Nevertheless, he feels disconcerted by people’s view of his mother’s profession as a model and an artist who, at that time, was largely denounced. Here is the narrator’s concern,

His mother, a woman he wanted to respect highly, lived a life he had never imagined approving. She did fashion shows in expensive hotels, cut her hair short, painted her nails, wore blouses or dresses to show off her cleavage, swayed her hips when walking, did any kind of dances from the regular ones to rock ‘n roll, took part in a myriad of beauty pageants. She indeed made it big by doing such “stints.” (Siswadi, 1960, p. 24).

The excerpt shows Sudjono’s reflection on his friend’s deriding his mother as a “worker” who earns a living by doing socio-culturally unacceptable jobs. The story depicts her mother through the child’s perspective, which seems quite strategic as it allows dual viewpoints toward his parents:

Johny (Sudjono) is both proud and ashamed of his mother and gradually loses hope in his father due to the absent masculinity.

The father is characterized as becoming stressed about not his inability to provide for his family. Despite engaging in the more fluid gender role that her wife plays, the character’s father still adheres to the normative gender role by

locking himself in the workroom. He looked older, and his hair turned grey. He rarely smiled and barely had a conversation with anyone...His face grew colder over time, and he was never curious about where his wife left for, was unaware of where she was from and never cared for the children. Johny thought of her father as gutless: he was a weak man. (Siswadi, 1960, p. 24)

Like his father, Sudjono still holds dear the normative standpoint on gender. He lacks reference on how to look up to his father. The father readily gives in to his circumspection and makes Johny uninspired. Sudjono sees the father as a failure in normative society. He does not find the image of a masculine figure in his father as a man and a patriarch. He has a parallel view of his mother, a woman he understands as having to play a domestic role. Sudjono says that he “couldn’t do anything. He couldn’t respect his mother as he should, and he couldn’t be proud of his father as he should be. He withdrew from loneliness, from hopelessness, and lapsed into Tommy’s company...” (Siswadi, 1960, p. 24).

He refers to roles that he accepts as “common” or “natural” in a “normal” picture of a family in a frame of normative gender roles. Sudjono does not possess any reference as to how a mother should be as a matriarch: a domestic mother who stays at home, one who provides him with affection, and one who bears all constructed features of a mother that Sudjono understands. Such disorientation inflicts on his joining a group of delinquents led by Tommy. We argue that the decision emphasizes the referred gender roles in normative gender relations.

Sudjono slips into irresponsible companionship with four lads in a group of delinquents dominating his hometown. The “mob” is portrayed as “five lonely bandits who alarmed the city with brainless acts and nasty gang brawls.” His joining the delinquents compensates for the absence of a male role model he has been looking for in the socio-culturally acceptable father figure. It can also be perceived as his effort to assert his masculinity, distinguishing him from his father.

The group of delinquents is led by a “son of a businessman with three wives” named Pratomo/Tommy (Siswadi, 1960, p. 22). Johny and Tommy are equally lonely and unhappy, which Tommy explicates in a dialogue with another character:

Oh, okay.

“Yesterday, my dad was up in arms again. He and my mom had a quarrel. He spends too much time with his other wife in Cianjur. And, mom just showed up crying. Rather than feeling pity, he freaked out. It could not be more

fun for me. I took the key to his new Mercedes and started driving. It was a cool machine.” Pratomo told that story in a flat tone. It was hard to figure out whether it implied inner suffering or peace of mind. (pp. 22-23)

The above passage introduces two points in question. First, it signifies Tommy’s social background as a wealthy family member whose newest car collection includes a Mercedes. Here, the luxurious sedan symbolizes wealth, for owning a car in that period was a privilege. It also overtly signifies Sugiarti’s effort to display class distinction to accentuate the practice of socialism. It also reflects the feeling of anxiety, desolation, or alienation in Tommy (as well as Sudjono). Tommy feels discomfort at home for having a polygamous father. In the 1950s and 1960s, women’s fiction and movement, particularly Gerwani, commonly raised and problematized the issues of marriage and polygamy. Wieringa (2003) wrote that the Gerwani stood for three fronts of struggle during the first and second congress: political, women’s, and regional. On the women’s front, the Gerwani was actively against Government Regulation No.19, initiated a democratically drafted marriage bill, and avoided confrontation with President Sukarno.

Similarly, Martyn (2004) asserts that in 1958 the PKI initiated a draft of an anti-polygamy law to counter Government Regulation No. 19, which explicitly encouraged polygamy. Together, PKI and Gerwani attempted to resist polygamy in any way possible. As depicted in the story,

rather than punishing the polygamous male character, Sugiarti shows a crystal-clear example of the impact of polygamy on a family's unity and harmony. Sugiarti's craft was strategic, considering the patriarchal political culture strongly prevalent then. Instead of launching direct criticism, Sugiarti chose an implicit way of *éthok-éthok* (dissimulation)—obviously Javanese—to address her criticism. According to Magnis-Suseno (2003), *éthok-éthok* is a commonly used strategy by Javanese people to express their opinion without overtly showing what they have in mind. Thus, the story contains instances of *sanepa* (symbolism) not explicitly to criticize the long-established mainstream culture. Such a textual strategy is important given the context in which the family is a basic yet important institution to create a socialist Indonesian society, as prescribed in the USDEK Political Manifesto.

Sugiarti depicted the combination between feminist ideas and Lekra's activities incorporated in the principle of "*Tradisi Baik dan Kekinian Revolusioner*" ("Good Tradition and Revolutionary Modernity"), on which basis every Lekra artist must work to be both creative and respectable. Lekra nurtured the decency of its members by enunciating "Tiga Baik" (Three Propreities): proper work, proper learning, and proper ethics (Aria & Dahlan, 2008b). The story of a marriage in the narrative may not be restricted to familial relationships but also social values concerning women in such issues as polygamy and gender roles. Putra (2011) also noted that one of the core ideas

behind the Manipol-USDEK policy was to shape and maintain an Indonesian identity, which was required to create a prosperous socialist Indonesian society. That was a point where Sugiarti's interest in articulating her feminist idea intersects to serve as a counterpoint within the patriarchal system strongly prevalent in Indonesian society at her time.

The image of a harmonious family plays an important role in the story because it fits the period's social context. Between 1950 and 1960, "the family" was institutional that was fundamental to the creation of a socialist Indonesian society characterized by the so-called Indonesian identity. Harmony was indispensable in the Indonesian political culture at the time, based on the Javanese political culture. Magnis-Suseno (2003) points out that harmony is a basic principle in the life of the Javanese people. Through the conflict among the characters in the story, Sugiarti underlines that what happens in Sudjono's family transgresses the basic norms of the Javanese people. According to Geertz (2017), to actualize the ideal, harmonious (Javanese) society, one's conduct must follow social norms and values. Since Sugiarti's story is set against the social situation of her time, it reflects the norms and values promoted by Manipol-USDEK under the guided democracy system. The story reflects how Sugiarti, an artist, conformed to and supported the Indonesian revolution.

The relevant story about family also reverberates in "Anak2 Muda" (1961),

which opens with the description of a family tying up with the children's bothersome attitudes. Junus, one of the children, is portrayed as a progressive university student. His parents have been preoccupied with legal matters concerning Junus, as shown at the beginning of the story, "Within the last three months, he had to take care of his son. And what kind of affair he had been into? Irritating, infuriating, and embarrassing ones" (Siswadi, 1961, p. 22).

The kind of juvenile delinquency is employed as a strategic motive to build the story so that the parents can be utilized to solve Junus's problems. Despite being a brat, Junus is born into a family of official/military personnel. He can avoid prison again because of his father's extensive network. The conversation between Junus and his father after the arrest illustrates Junus's characteristics.

"Well, Junus, can't stop worrying your quite busy dad, can you?"

"Of course, busy taking care of delinquent boys and bailing them out of jail..." said Junus.

"I don't ask much. Know what you are and where you are now. You're a university student. You must study instead of joining the protest march and throwing stones at buildings... it was pleasing indeed, sensational; it was as if it were heroic in nature, but empty heroism, rhetorical heroism. Bombastic. Sensational. No more, no less". (Siswadi, 1961, pp. 22, 24)

Junus is described as hard-nosed yet perseverant, as portrays in "Of course, busy taking care of delinquent boys and bailing them out of jail..." (Siswadi, 1961, p. 22). His nature and attitudes are set against his opportunistic father. The story portrays the father-son relationship as conflicting—Junus rebels against the father due to his rivaling stance in displaying his masculinity. As a son, he embraces a progressive attitude despite making compromises as his father does. Both embrace the normative gender role that is socio-culturally acceptable in that era. However, by placing each character in different political orientations, Sugiarti presents both characters resisting each other.

The father figure is central in the short story because Sugiarti presents a common stock character of a government official who, during those days, was typically engaged in corrupt practices, cahoots, and nepotism. Sugiarti may have employed the strategy to rebuke the so-called capitalist bureaucrats who were not in line with the Political Manifesto of guided democracy. Junus's father apathetically demonstrates reactions that he points out as empty heroism, bombast, and sensationalism. Meanwhile, Junus is endowed with militancy upon which most fictional characters of proletarian literature in that era are built. As Toer (2003) reiterated, the commonly called socialist-realist works, which function as a front of struggle, must incorporate distinct features, including militancy: uncompromising and aggressive toward rivals and ready to present a tough defense among comrades. Therefore, the conflict between the father and Junus is made to signify a bigger matter than merely family issues.

The conflict, as mentioned earlier, does not overtly indicate domestic issues but can be taken figuratively as a political problem concerning the PKI and the ABRI (Indonesian Military). The story politically captures the conflict between the Armed Forces and the PKI, which escalated to a bitter political contestation. Robinson (2008) affirms that the US played a significant role in supporting anti-Communist components, including the highest military command (especially the Armed Forces), and eradicating the PKI from Indonesia's political scene. The father's military position represents the association that Junus criticizes: this can be interpreted as representative of Sugiarti's act in making critical remarks as a member of the Lekra/Gerwani/PKI in the narrative.

However, the short story "Anak2 Muda" portrays the life of the upper-middle class, personified in the father—a busy "Commissioner"—as the narrator depicts, "The father, who lingered in the office, did not typically have enough time to manage his own children" (Siswadi, 1961, p. 22). Sugiarti, both politically and domestically, assesses the role of the father or husband in the division of roles. As a husband, the character plays a role that fits socially as the breadwinner. Nonetheless, the characters fail as a father: he does not function suitably as a domestic partner in parental responsibility. This fragment shows how the husband forces his spouse to carry out the dual roles of mother and wife while withdrawing from doing otherwise, that is, being the head of the family.

Meanwhile, the female character in the story is portrayed as a wife and mother who takes care of all household chores. She is gender-conscious about her role in managing the family. Such a normative gender role was common when the Indonesian political culture was still heavily characterized by patriarchy. The wife/mother plays her role as a Javanese woman, who, as Koentjaraningrat (1994) describes, must act as the "authority" in domestic affairs. However, as a government official's wife, the wife/mother figure in the story is presented as being well-informed in taking notice of the current affairs, as can be seen in the dialogue between her and the husband: "You've been too busy at the office. Why the fuss with Junus's hanging out with his friends? I'm sure he'll be fine. He's not roaming around with those delinquents" (Siswadi, 1961, p. 22).

Capturing the view of the genteel (*priyayi*) view, the passage voices resistance towards the patriarchal Javanese political culture. The attitude is depicted in the wife's/mother's "complaint" (resistance) against her husband/father. By resisting her husband, the wife stands as the Other since the higher a woman's aristocratic status, the more she is tied to patriarchal norms. Koentjaraningrat (1994) describes that a male aristocrat's wife must accompany her husband. What the wife/mother character does in the story is visionary, considering that it was written at a time when the patriarchal culture was very strong. Sugiarti does not explicitly resist patriarchy in

her work by presenting her feminist ideas in suggestive ways. The story reflects a Javanese philosophy, namely "*mikul dhuwur, mendhem jero*," which means that to create social harmony, Javanese people must show goodness and hide whatever is considered bad (Geertz, 2017; Magnis-Suseno, 2003).

The mother/wife figure is positioned in the thick of the conflict between Junus and his father. As a wife, she is portrayed as composed yet adaptable, even though the omniscient narrator tends to include morals through the wife/mother figure. Here is an example of the ideals:

But when she looked over her husband's grey hair and drained old face, she took a deep breath. His husband forsook the principle that he had held dear... something decent, noble, and utopian as a socialist individual, socialist society, world peace, global solidarity, peoplehood, antirealism, and individuality held in high esteem. (Siswadi, 1961, p. 22)

The above passage portrays the mother as understanding the problem with nothing to do with her domestic role as a homemaker. Accordingly, this can be perceived as an autobiographical narrative whose status of the author as an activist of the Lekra/Gerwani/PKI and a woman/mother is impossible to disentangle. When the character's wife/mother brings up such terms as the socialist individual, socialist society, global solidarity, and peoplehood,

we can hear the writer's voice, who was a promoter of socialism through Lekra/Gerwani/PKI. However, the character's mother/wife is presented as a homemaker.

Sugiarti uses the character wife/mother cum family manager to hint at feminine leadership. The cited description: "when she looked over her husband's grey hair and drained dilapidated face, she took a deep breath", signifies her patience (Siswadi, 1961, p. 22). Her caring demeanor calms her heated husband, indicating the so-called transformational and transactional leadership (Lopez-Zafra et al., 2012). The theory suggests that female leadership differs from male leadership, which aligns with Visser (2002), who said that feminine leadership is ascribed to family. The story is based on a family issue. Through the character's wife/mother, Sugiarti demonstrates effective female leadership in solving the story's problems. The portrayal of woman leadership in the story suggests that the kind of feminism adopted in the movements is still suffused with traces of patriarchy, with which the Javanese culture has been associated. Thus, the woman's leadership in the story is not authoritative and power-centered. Rather, it is leadership that embraces and empowers. Sugiarti offers this concept of woman leadership throughout the story. She builds upon the argument that female leadership may resolve the family issue.

Sugiarti also characterizes the mother figure as compassionate toward her son. The character's mother extends her trust and tenderness to Junus and intercedes for her

father figure's absolute legitimacy and her son's teenage turmoil. However, as it gets ideological, Sugiarti tends to refrain from presenting the mother/wife/woman character as a superwoman because it was evident during the era that the socially-constructed gender role between men (public) and women (domestic) fell in the rigid division. In the story, women are not portrayed as central characters because, as Priyatna suggested, it was equally oppressive to insist on becoming matchless and bringing them down into insignificance as a mother and a wife (Priyatna, 2018b). What is revolutionary in the story is that Sugiarti presents a woman's character and the daily conflicts she faces. The story also provides illustrations of the numerous implications the woman character has to undergo, preventing her from resisting frontally. In a strongly Javanese national political culture, frontal opposition must be avoided. Magnis-Suseno (2003) points out that respect and harmony constitute a basic norm in the social life of Javanese people. Sugiarti strategically places the mother character as a mediator in the conflict between her husband and children in the story. Thus, the mother/wife (Sugiarti)'s believes that "I prefer Junus going to meetings to hanging out with the delinquents" (Siswadi, 1961, p. 24). Again, it emphasizes that the gender role in the narrative may be an attempt to affirm any socio-cultural construction.

While the two previous stories are about juvenile misbehavior in a family, "Si Udin Ketua Klas" (1961) is another story. The narrative seems to allow Sugiarti to

accentuate the role of mother/wife/woman in reinforcing the programs of the post-Independence Indonesian government regarding education. It echoes the strategic role in the education sector that the Gerwani played, plus the idea of "good tradition" in the works of Lekra's artists. Hence, didacticism and morality appear both covertly and overtly.

"Si Udin ketua klas" is a simple story about the interaction between a mother and her son, Udin, who is restless about the coming school enrollment test. The story begins with the narrator describing the mother's concern about Udin's unusual attitude:

"Udin had returned home at one o'clock. But, contrary to his habit, he didn't change nor ate after school. Now he looked busy on the table leafing through a book while mentioning the names of his friends."

Udin is anxious of preparing for the coming enrollment test to "secondary school". (Wati, 1961, p. 10)

Meanwhile, as "ketua klas" or a "class captain", the teacher asks Udin to encourage his friends to have more perusal on the subjects that will be tested and urges him "as a class captain to set up a study group" (Wati, 1961, p. 10). Sugiarti presents the mother as comforting and supportive of her son, providing the character with a central role, which implies gender normativity. For example, "Well, that will be excellent, Din. I'm all with you if you want to take the study

group here. I'll provide you all with water and cookies" (p. 10).

Udin is, in turn, excited upon hearing his mother's approval for the study group to be held at his home. It is strategic yet ideological to install the mother in the interaction. Sugiarti emphasizes the importance of a mother in child development with such an approach. Sugiarti introduces a gender-conscious character who can be considered a friend, a teacher, and a mother for a nervous child.

Meanwhile, the father figure is somewhat overlooked in the story. The character is only slightly mentioned during a short exchange: "Dad said that if I pass the test with a good grade, he will buy me a roadster bicycle. I'd be very happy. My dream would come true" (Wati, 1961, p. 10). The cited lines above show that the character's father supports Udin's learning activity in the house. Udin's parents' support makes the story representative of the typical harmonious family due to the agreeable gender role of the father and mother. Despite the more prominent role of the mother, Sugiarti eschews the justification that a mother is more substantial than a father. The key idea of the story is that parents have a critical role in motivating their children to learn at home, as narrated in the story: "Childhood was the period to learn. It shouldn't be wasted. Be virtuous and contribute as much as you can to the development of your country and nation. Keep the Republic of Indonesia safe, prosperous, and peaceful" (p. 10). "Si Udin ketua klas" is specially written for children.

Thus, it is strategic to display the portrait of a harmonious family insofar as the intended readers may grasp that supporting family results in a better learning process. Meanwhile, the statement "childhood was the period to learn...and may contribute as much for the development of the country and nation" implies the narrative's pursuit of promoting the "five passions," (Siswadi, 1963, p. 3), which adopt Lekra's principles in education and literature. The narrative brings out the idea of diligent learning to represent the motherland's passion, parental care, and respect to representing the passion for parents, and exuberance to represent the passion for socialism. "Si Udin Ketua Klas" was Sugiarti's contribution to the literature of socialist realism for children.

The story also instills ideas of how children may learn to value friendship, hard work, and gender consciousness. The effort to educate on gender issues may be seen in Mainah, a female character put forth as the leader of the study group:

"Why don't we elect Mainah as our leader, Manan interrupted. Although she's a woman, she's capable enough to lead us. On the plus side, she's patient and has a helping hand." As the group leader, Mainah was in charge of the group members and meeting their needs. She felt especially responsible for helping the study group in her neighborhood to improve... She was still seen talking with Udin to discuss matters that needed to be done. (Wati, 1961, p. 10)

The appointment of Mainah as the group leader is crucial in raising issues on gender roles. Sugiarti, through Mainah, shows that women are able as leaders. She offers leadership that embraces such normative features of women as “patient and have helping hands” (Wati, 1961, p. 10). According to Eagly and Johnson (1990), the democratic nature of women and their deep concern for specific issues are suited for leadership essentials. For this reason, Sugiarti may be regarded as a visionary because the story offers the concept of feminine leadership through which the significance of gender equality becomes apparent. The nature/attributes of women in the story are required to delegitimize the formalized form/attributes of masculine leadership. Such is the concept of woman leadership that Sugiarti offers in the story. Mainah does not show or exercise power. Rather, she ensures that everyone can work and learn together to reach what they wish to achieve. Magnis-Suseno (2003) explains that a Javanese woman and man must respect each other. Social relations are structured hierarchically so that each individual (woman/man) shows good conduct in accordance with their respective roles. Mainah is kept within her role as a (proper) woman to educate on the interweave of gender roles between the public and the private, as seen in the following: “a profound silence fell upon the group. Udin’s mother brought out tea and fried cassavas. Mainah approached her, helped her with the refreshments, and put them down before everyone” (Wati, 1961, p. 10).

The passage signifies a fluid gender role. Sugiarti radically presents the female characters in the story with valuable competence and performance without calling each gender role into question, implying the assumption that the story was written with strong gender consciousness. Readers may also follow ideologies interwoven into the narrative by Sugiarti as a woman writer and activist.

The depiction of female characters in the three aforementioned short stories underscores the importance of a woman as an individual, wife, and mother without having to degrade the role of a man, father, and husband in the family’s private structure. Normative family portrayal does not always refer solely to the role of the mother and parenting styles. Considering the presented issues and solutions, it is perceptible that Sugiarti suggests that a parenting style requires both a father and a mother. She leans not toward the idea that parenting simply depends on mothering in a culture of the sexual division of labor. Furthermore, the three stories offer feminist ideas that were revolutionary at the time when the patriarchal Javanese political culture still dominated the political culture. In the three stories, Sugiarti implicitly and explicitly presents important feminist ideas of gender equality that were ahead of when they were written in the 1950s and 1960s.

## CONCLUSION

The three examined stories show the interweave of ideologies of Sugiarti as a (woman) activist and feminist. The Lekra/

Gerwani/PKI to which Sugiarti belonged was her vehicle to express certain notions during the 1950s and 1960s. Not only did Sugiarti raise political issues in terms of jargon of “*politik sebagai panglima*” or literally “politics as the commander” (the supremacy of politics above other aspects) that the PKI propagated, she also raised feminist issues to contribute to nationalist consciousness. However, the stories incorporate the intertwining of women’s roles in the private and public and propose an Indonesian feminist discourse during the 1950s and 1960s. This study shows that the selected works of literature published by Sugiarti Siswadi, an Indonesian woman writer between the 1950s and 1960s, indicate a feminist ideology and the spirit of gender equality. In addition to epitomizing her generation, Sugiarti deserves to be considered an important exponent in the feminist agenda and gender equality struggle. She envisions women’s roles transgressing the culturally assigned public domains and significantly contributing to establishing Indonesia as a young nation.

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## **The Effect of Using PhET in Changing Malaysian Students' Attitude to Learning Physics in a Full Virtual Environment**

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### **ABSTRACT**

This study investigated the effect of physics inquiry learning using PhET Interactive Simulation on form four students' attitudes toward physics in a fully virtual environment during the COVID-19 pandemic in Malaysia. This quantitative study employed the Quasi-Experimental Design by administering the Attitude Toward Physics Lesson Scale (ATPLS). Fifty-nine form four students from a rural school located in Selangor, Malaysia, participated in this study. The control group ( $n_1 = 25$ ) was taught in the standard thematic order as the usual teaching approach by the teacher during online lessons. In eight lessons, students only watched videos related to laboratory experiments that covered Gravitational Force, Newton's Laws, and Gas Laws. Meanwhile, the experimental group ( $n_2 = 34$ ) used the PhET Interactive Simulations as a treatment to explore the same topics. All test results underwent a normality test, homogeneity test, and hypothesis evaluation. The data in this study were analyzed using Multivariate Analysis of Covariance (MANCOVA) and Analysis of Covariance (ANCOVA). Findings revealed that PhET Interactive Simulation negatively impacts students' attitudes towards physics inquiry learning during the full virtual online lessons. Further study is expected to pair PhET Interactive Simulation with other e-learning tools or platforms to provide better instant feedback and enhance students' attitudes in physics inquiry learning.

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### **INTRODUCTION**

Future jobs will depend on an excellent grasp of the Science, Technology, Engineering, and Mathematics (STEM) subjects as the

request for professional skills that bridge the gap between people and machines increases. As predicted, by 2025, 85 million employments may be uprooted by expanding computerization. In contrast, a few 97 million new fields may develop to be more adjusted to the new workforce section between people and machines. According to the Employment Statistics First Quarter 2021, 55.5% of job vacancies were algorithms (World Economic Forum, 2020). In Malaysia, the government launched the National Fourth Industrial Revolution (4IR) Policy to assist in leveraging innovation and ethical use of technologies for the country's strategic socio-economic transformation (Economic Planning Unit, 2021). Along with the aspirations, the Secondary School Curriculum Standards were enacted to ensure the syllabus is comparable to meet the needs of the STEM professional workforce in the future (Ministry of Education Malaysia, 2013).

The need for workforces in related STEM fields is crucial in Malaysia. As the Academy of Sciences Malaysia predicted, one million workforces are required by 2020 to be involved in the science and technology field. The top critical occupations include support and service comprising technicians, scientists, engineers, digital IT professionals such as prominent data scientists, and content creators who will remain in demand in coming years. In addition in the semi-skilled category and 23.5% were in the skilled category (Department of Statistics Malaysia, 2021). This situation may worsen as current studies show a declining interest

among students in science subjects (Markus et al., 2021; Ministry of Education Malaysia, 2019). As cutting-edge educators, teachers have to explore new and exciting teaching approaches to capture the interest of students who are digital natives as well as change their attitude and behavior in learning science in general and physics in particular (Shahroom & Hussin, 2018).

### **Background and Overview**

According to Rutten et al. (2012), compared with textbooks, chalk, and talk lessons, a learning environment with computer simulations can foster students systematically explore hypothetical situations. Various computer simulations are available to assist in teaching and learning physics. For instance, Sari et al. (2019) used an Interactive Physics simulation program to perform force-motion experiments in a virtual laboratory (VL) compared to the computer-based laboratory (CBL). Similarly, Gusmida and Islami (2017) utilized augmented reality technology to develop a learning media for physics, specifically the kinetic theory of gas. Finally, Ben et al. (2021) studied the effect of using PhET Interactive Simulation among rural and urban students in learning electrical resistance and Ohm's Law. With the help of PhET Simulation, the students can observe natural events in physics that cannot be seen directly, and learners are allowed to manipulate initial conditions directly as well as immediately see the impact (Sari et al., 2017). Therefore, the effect of using PhET in teaching physics has been proven

as a fully-fledged teaching tool (Akhigbe & Ogufere, 2019; Faour & Ayoubi, 2018; Yusuf & Widyaningsih, 2019). However, all these studies were conducted in a face-to-face classroom teaching mode.

### **Problem Statement and Rationale**

As the COVID-19 pandemic surged in the middle of March 2020, many countries, including Malaysia, had to stop their citizens' daily routine activities, such as going out to work or attending school. Educational institutions are one of the sectors that were severely affected by the pandemic. In order to ensure students are not left out of mainstream education, traditional face-to-face teaching has entirely been shifted to a virtual learning environment. The sudden shift to an entirely virtual learning environment has become a significant challenge to teachers and students (Chu et al., 2021). Most teachers have no previous online teaching experience, nor are they familiar with the digital applications to deliver their online lessons effectively (Tan, 2020). The nation gets worried when a report shows students' declining interest in online lessons occurs after studying from home (Mohd Azman, 2021).

In addition, even though lately the Malaysia education system has been revised to move from a teacher-centered approach to a student-centered approach, some teachers still neglected to adapt to the new approach as their primary concern was to deliver all the content on time and prepare their students for final examination (Jing &

Saleh, 2020). This teaching approach has dramatically impacted students' learning attitudes (Fatimah & Santiana, 2017). Hence, there is a need to examine the effect of an alternative strategy in building a desirable attitude and capturing students' enthusiasm toward learning physics rather than using the lecture method (Qaiser et al., 2017).

### **Aim of Study**

Most studies have investigated the effects of implementing PhET on students' attitudes in face-to-face teaching mode (Demeku, 2019; Faour & Ayoubi, 2018; Mahulae et al., 2017). Based on this research gap, the study aims to investigate the effect of physics inquiry learning using PhET Interactive Simulation on Form Four students' attitudes toward physics in a full virtual learning environment. As some teachers struggle to find a suitable way to captivate students and arouse their curiosity in learning physics, thus this study aims to provide a positive example of implementing inquiry learning using the PhET Interactive Simulation. Hence, such simulation encourages students to learn physics with meaningful learning opportunities provided in this educational process (Wardani et al., 2017). The aforementioned claims led to the formulation of the following research question: Is there a significant statistical difference between the post-test mean scores of the control group and experimental group's attitudes toward physics, after controlling for the pre-test score?

## Research Question

The research question sounds as “Is there any statically significant difference between the control and experimental group’s attitude toward physics lesson post-test mean scores after controlling the pre-test score?”

## Literature Review

**Students’ Attitude Towards Physics Learning.** Based on a review of past literature, students often faced difficulties relating the physics content and real-world applications, causing a lack of confidence in learning physics. This situation may worsen when students keep facing failure in mastering the physics content. Similarly, students may be able to define the terms such as kinetic molecular theory, but when they need to apply it in solving problems, they reveal their misunderstanding. Hence, examining students’ attitudes toward physics learning is crucial since it is challenging to understand, yet it is complicated to find solutions to physics-related problems (Veloo et al., 2015). Such an attitude like persistence to learn complicated physics solutions is crucial as it could influence students’ attitudes toward physics learning and improve learning achievement (Kurniawan et al., 2019).

Past literature concerning the physics learning environment showed a relationship between the learning environment and students’ attitudes toward physics (Gardner, 1975; Hacıeminoglu, 2016; Rutjens et al., 2018). Further investigation also proved that students’ negative attitudes toward physics were related to a traditional approach used

in the physics classroom. In other words, inquiry physics instruction could foster students’ positive feelings (Hacıeminoglu, 2016). Contrary to this, when students were provided with loads of scientific information directly, they would have a more negative attitude toward physics (Oh & Yager, 2004).

**The Rationale for Choosing PhET Interactive Simulation.** PhET (previously known as Physics Education Technology) Interactive Simulations are now widely used to teach physics and chemistry (Sarı et al., 2019; Wieman et al., 2010). This free online simulation (<https://phet.colorado.edu/>) is animated, interactive, and engaging for students to learn through exploration. These simulations (abbreviated as sims) have connected real-life applications and physics by visualizing the concept. Additionally, simulations were explicitly designed to support students in constructing a robust conceptual understanding of physics through exploration (Sitindaon et al., 2017).

In recent years, foreign educators have integrated computers into the physics classroom to tap the benefits of using the PhET Interactive Simulations in an inquiry learning environment. For example, Safarati (2017) found that students’ science process skills taught by the scientific inquiry model using the PhET are better than students taught by direct instruction. At the same time, Sitindaon et al. (2017) explained that guided inquiry learning using PhET influences students’ problem-solving skills and critical thinking in physics learning. PhET could also conduct simulation

laboratory activities in electric circuits and wave motion to enhance students' learning attitude (Demeku, 2019; Faour & Ayoubi, 2018). However, Malaysian secondary school teachers have been relatively slow in implementing PhET Interactive Simulation to enhance students' attitudes in the physics learning environment.

### **Approaches to Teach Physics Topics.**

Eventually, this study covers the topics of Gravitational Force, Newton's Laws, and Gas Laws. According to the Standard Secondary School Curriculum, these topics are among the compulsory contents of the Form Four physics syllabus. Students learned about which variable affects the Gravitational Force between two bodies, the application of free-fall situation with three types of Newton's Laws, and determining the relationship between pressure, temperature, and volume of gas in terms of the behavior of gas molecules based on Gas Laws. Past researchers have addressed that secondary school students face more difficulty in physics topics such as forces, movement, as well as pressure due to their abstract and complex concepts (Fidan & Tuncel, 2019). The findings of a study conducted by Kane et al. (2016) have demonstrated that 14% of their respondents have many misconceptions about the 'pressure and kinetic energy of gas'. Furthermore, the forces associated with Newton's Laws of Motion included its microscopic aspects, such as speed, collisions, and pressure gas, that increase the difficulties.

Various literature shows that educators use different approaches to teach these topics in the physics discipline (Fidan & Tuncel, 2019; Gusmida & Islami, 2017; Tobaja et al., 2017). Tobaja et al. (2017), for example, found that using the jigsaw technique in mapping radioactivity concepts could help students learn meaningfully with the lesser effort needed. On the other hand, Fidan and Tuncel (2019) suggested that integrating augmented reality into problem-based learning in Newton's Laws could lead to positive learning emotions.

However, these approaches may not be suited to the current local environment situation where students have faced challenges such as lack of access to internet facilities, poor communications with peers and teachers, as well as delaying feedback from their teachers in this virtual learning environment (Bestiantono et al., 2020; Tan, 2020). In this case, using PhET Interactive Simulation during virtual physics lessons can be an alternative way, as it can be downloaded for free and is user-friendly.

According to Yuliati et al. (2018), learning with PhET simulations can make the invisible appear and provide multiple representations (macroscopic, microscopic, graphics) of an abstract concept. Hence, using this media will provide the students with the opportunity to visualize the abstract concept of physics. Nevertheless, such simulations that emphasize the connections between real-life phenomena and physics have a researchable viewpoint if PhET Interactive Simulation effectively changes students' attitudes and behavior in learning

physics (Pucholt, 2021). While it is essential for students to conduct actual laboratory hands-on activities and understand the physics concepts (Fouad et al., 2018), PhET simulations fulfill the needs when schools are closed down. Thus, this shows that the study on implementing PhET to learn Gravitational Force, Newton's Laws, and Gas Laws during the full virtual environment is essential.

### **Relationship Between Attitude, Belief, and Interest in Physics Learning.**

Attitude is an affinity to supply learned, consistent, positive, or adverse reactions to a question, such as a subject or a lesson (Syahril et al., 2019). While physics is challenging to understand due to its abstract or complex structure, students' attitudes toward physics learning may be negatively affected (Fidan & Tuncel, 2019). Nevertheless, students' attitudes toward learning physics and beliefs are influenced by their intention to study physics, confidence level, teachers' characters, interactive learning environment, and other factors (Astalini et al., 2018; Sheldrake et al., 2019).

The feelings, beliefs, and interests about physics also contribute to students' attitudes toward physics learning (Jufrida et al., 2019). In other words, students' attitude toward physics learning is influenced by their feelings, beliefs, or interest in physics. According to Crouch et al. (2018), "interest" refers to positive feelings toward something that can lead to the desire to continue seeking knowledge and learning. However, interest differs from the attitude of learning

as liking can be a proxy for attitude; it is not an adequate marker of interest (Crouch et al., 2018).

### **Hypothesis**

H1: There is a significant difference between the control and experimental groups' attitudes toward the physics lesson post-test mean scores after controlling for the pre-test score.

## **MATERIALS AND METHODS**

### **Sample of the Study**

In this study, Quasi-Experimental designs were employed (Creswell & Creswell, 2018). This design was employed because the sample cannot be randomly assigned, and researchers want to investigate the cause-and-effect relationship. In addition, the non-equivalent group pre-test and post-test design were applied in this study because the number of students in the three classes differed. A total of 59 Form Four students from a secondary school in a rural area in Selangor, Malaysia, participated in this study. The respondents were selected from the same school to ensure that comparing the students' and both groups' result was legitimate. They were separated into the control group ( $n_1=25$ ) and the treatment group ( $n_2=34$ ). Both groups' average age is 16 years old and has the comparable ability to access the internet and comparable learning physics experience. Their science background are similar, as 61% obtained a credit (at least grade C and above) for the PT3 science examination. In comparison, 88% obtained credit for

the PT3 mathematics examination. Table 1 demonstrates the comparable learning physics experience between the control and treatment groups.

Table 1  
*Comparable learning Physics experience between the control group and treatment group*

Control Group	Treatment Group
Students were engaged with their relevant background knowledge based on different themes during online lessons.	Students used PhET Interactive Simulation as a tool to explore different themes in the fully virtual environment.
Students watched videos related to the topics before solving problems.	Students conduct experiment activities via PhET Interactive Simulation before solving problems.

**Instrumentation: Attitude Toward Physics Lesson Scale (ATPLS)** Scale (ATCLS). This self-administered survey questionnaire has 12 items covering cognition, affective, and behavior components in measuring students' attitudes toward physics lessons (Table 2).

The Attitude Toward Physics Lesson Scale (ATPLS) was adapted from Cheung's (2009) Attitude Toward Chemistry Lessons

Table 2  
*Categorization of attitude toward Physics lessons scale items*

Construct	Item
Liking for physics theory lessons	I like physics more than any other subject. Physics lessons are interesting. Physics is one of my favorite subjects.
Liking for physics laboratory work	I like to do physics experiments. When I am working in the physics lab, I feel I am doing something important. Doing physics experiments with PhET is fun.
Evaluative beliefs about school physics	Physics are useful for solving everyday problems. People must understand physics because it affects their lives. Physics is one of the most important subjects for people to study.
Behavioral tendencies to learn physics	I am willing to spend more time reading about physics. I like trying to solve new problems in physics. If I had a chance, I would do a project in physics.

ATPLS was categorized based on four construct: liking for physics theory lessons, liking for physics laboratory work, evaluative beliefs about school physics, and behavioral tendencies to learn physics. A six-point rating scale labeled as strongly

disagree, disagree, slightly disagree, slightly agree, agree, and strongly agree was applied to measure respondents' degree of attitude. Beglar and Nemoto (2014) suggested that most Likert scales should be made up of six points, which excluded the *neutral* or middle category (e.g., *not sure*) to avoid statistical problems in that analyses of rating scales as they do not fit statistical models well. The ATPLS is recommended to measure students' attitudes overall and how dynamically they conceptualize "attitude to physics lessons" as a student's affective response toward physics, cognitive response, and behavioral tendencies to learning physics in school (Cheung, 2009).

### Validity and Reliability

Since the ATPLS was adopted from the instrument based in the Hong Kong context, validity and reliability tests need to be carried out to ensure it is suitable for the Malaysian context. The items were validated by two experts from the National STEM Center. In order to ensure that students understood the language used in the items, two English teachers were invited to validate the questionnaire from the language perspective. Before the actual study, a pilot test was conducted to establish the content validity of scores on ATPLS. Forty Form Four students from nearby schools with similar backgrounds to actual study participants were invited to participate in the pilot study. The Cronbach's Alpha value obtained from the pilot study is 0.94, and the items in the questionnaire are appropriate to be administered in the Malaysian context (Creswell & Creswell, 2018).

### Research Procedures

Prior to the study, all students' attitudes toward physics were measured using ATPLS. The control group was taught in the standard thematic order, where the teacher started with students' strengths and engaged them with their relevant background knowledge based on different themes during online lessons. The teaching and learning for the control group were conducted as usual without any interference or changes to its original setting. In eight lessons, students in the control group only watched videos related to laboratory experiments that covered Gravitational Force, Newton's Laws, and Gas Laws.

Meanwhile, the treatment group used the PhET Interactive Simulation to explore the same topics with the teacher's guidance during the full virtual environment. For example, one of the lessons applied Gravity Force Lab from the PhET simulations to explore Newton's Universal Law of Gravitation (Figure 1).

Students could manipulate few variables, such as masses, force values, distance, and regular size, to explore the consequences of each change. While students were involved actively with their mental and physical involvement during this exploration phase, they could establish relationships, observe patterns, identify variables, and question events.

Using the results obtained from the PhET, students determined two variables affecting the gravitational force between two bodies. Then, students explained the relationship between these variables and

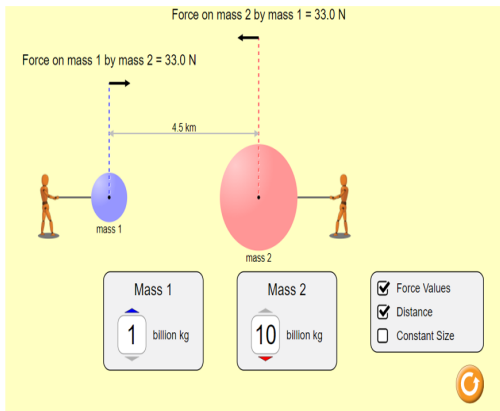


Figure 1. A screenshot of the Gravity Force Lab simulation interface.

gravitational force. In addition, students used PhET to elaborate further on the applications of gravitational force in daily life (e.g., students predicted the condition to gain minimum gravitational force between two bodies). At this moment, students corrected their remaining misconceptions and generalized the concepts in a broader context. Finally, students completed the evaluation activity at the lesson's end.

In this way, the treatment group students used their computers or handphones to work with the PhET Interactive Simulation and a worksheet to guide them during the physics online lessons. Thus, the teacher facilitated and guided them to explore as well as solve their individual and group tasks. Therefore, the treatment group students were actively engaged with the online lessons and could monitor their understanding as concurred with the literature (Arafah et al., 2020). After both groups had completed all their online learning lessons, a post-test was conducted to measure their attitude again using the ATPLS. Although both groups used

different methods, they were comparable as the purpose of this study is to study the effect of using PhET compared to a more conventional method for the same teaching content as well as the same duration of time (Karpudewan & Mohd Ali Khan, 2017; Pucholt, 2021).

Due to the COVID-19 pandemic, all the control and experimental groups were conducted entirely via a virtual platform. During this period, no physical or face-to-face interaction between teacher-students and students-students. Hence, the teaching and learning activities are solely based on virtual interaction.

### Data Analysis

The data obtained from the ATPLS questionnaire were analyzed using SPSS version 16.0. Descriptive statistics were used to report mean and standard variation for the score for each construct in ATPSL. Meanwhile, inferential statistics such as MANCOVA and ANCOVA were employed to determine the difference between the control and experimental groups and rule out the effect of PhET in enhancing students' attitudes toward physics learning.

### RESULTS

To meet the assumptions for the application of MANCOVA and ANCOVA, the pre-test and post-test scores were found to be normally distributed based on Kolmogorov-Smirnov tests. Another assumption that has been met is the homogeneity of regression with significant results  $F(4, 53) = 3.366, p < 0.05$ , Wilks'  $\Lambda = 0.797$ , partial

$\eta^2 = 0.203$ . Meanwhile, the last assumption of equal variances between the two groups in the data was tested using Levene's Test of Equality of Error Variance. This result indicated that the  $p$ -value between the

treatment interaction and pre-test with post-test for all four constructs under students' attitudes toward physics was greater than 0.05 (see Table 3).

Table 3

*Summary of the F and P-value for Levene's test of equality of error variance*

Construct	F	P
Liking for a physics theory lesson	1.85	0.18
Liking for physics laboratory work	0.01	0.94
Evaluative belief about school physics	2.39	0.13
Behavioral tendencies to learn physics	1.00	0.32

Table 4 presents a deduction in the post-test mean values in all four constructs in the ATPLS. Surprisingly, the results show that the treatment group has lower post-test mean scores than the control group. As such,

it can be postulated that PhET Interactive Simulation has a limited impact on the treatment group students to obtain a higher score in the post-test.

Table 4

*Descriptive statistics for all the four constructs included in attitude toward Physics lessons*

Construct	Group									
	Control					Treatment				
	Pre-Test	SD	Post-Test	SD	Diff	Pre-Test	SD	Post-Test	SD	Diff
Liking for a physics theory lesson	4.61	0.88	4.31	0.92	-0.30	4.03	0.94	3.82	0.99	-0.21
Liking for physics laboratory work	4.90	0.77	4.52	1.15	-0.38	4.58	1.04	4.29	0.99	-0.29
Evaluative belief about school physics	4.96	0.69	5.04	0.64	-0.08	4.48	0.81	4.28	0.90	-0.20
Behavioral tendencies to learn physics	4.43	0.91	4.24	0.83	-0.19	3.96	0.80	3.75	0.92	-0.21

The MANCOVA analysis was conducted to analyze the significant difference in attitude toward physics lesson post-test mean score between the control and treatment groups after controlling the pre-test score. The results are summarized in Table 5.

Table 5

*Results obtained from Wilks' Lambda test*

Effect	Wilks' Lambda	F	Hypothesis df	Error df	Sig.	$\eta^2$
Intercept	0.448	16.304 <sup>b</sup>	4.000	53.000	0.000*	0.552
Pre-Test	0.844	2.453 <sup>b</sup>	4.000	53.000	0.057	0.156
Treatment	0.797	3.366 <sup>b</sup>	4.000	53.000	0.016*	0.203

Hence, the hypothesis is rejected, with results showing significant differences before and after implementing PhET Interactive Simulation during full virtual learning. However, this result suggests that the PhET Interactive Simulation implemented in the school context leads to a more negative attitude among students than regular teaching during the virtual lesson.

Due to the significant result obtained from Wilks' Lambda test, the ANCOVA analysis result was obtained from Tests Between-Subjects Effects. Test of Between

Subjects Effects for three constructs shows a significant effect of the independent variable on the dependent variable (liking for physics theory lessons, evaluative belief about school physics, and behavioral tendencies to learn physics). The test result shows that the post-test score for these three constructs is significant, with  $p < 0.05$ . However, one construct (liking for physics laboratory work) is non-significant with  $p > 0.05$ . The summary of results obtained from Tests Between-Subjects Effects is presented in Table 6.

Table 6

*Summary of tests of between-subject effects*

Construct	Sum of Squares	Mean Square	F	Sig.	$\eta^2$
Liking for Physics theory lesson	5.886	5.886	6.882	0.011*	0.109
Liking for Physics laboratory work	1.480	1.480	1.332	0.253	0.023
Evaluative belief about school Physics	6.889	6.889	10.529	0.002*	0.158
Behavioral tendencies to learn Physics	4.600	4.600	5.962	0.018*	0.096

## DISCUSSION

The research revealed that PhET Interactive Simulation negatively impacts students' attitudes toward physics inquiry learning during the full virtual online lessons. Surprisingly the finding does not concur with the resulting yield by Wardani et al. (2017), as PhET Interactive Simulation has no significant direct influence over students' attitudes toward physics. Students have declined interest in learning physics after implementing the PhET Interactive Simulation during the full virtual learning lessons. One logical explanation could be the influence of physical distance that caused students' anxiety during the COVID-19 pandemic, as reported by Ardan et al. (2020), where more than 90% of their respondents were feeling depressed, fearful or worried that they would be exposed to COVID-19 and less able to concentrate in their study. The situation could be worsened if the student is from a disadvantaged family background (Putra et al., 2020).

Students face challenges and difficulties with limited online facilities and less supervision and guidance than with face-to-face study (Tan, 2020). According to Hamid et al. (2020), many students (64.3%) perceived fully online learning during COVID-19 as less effective than face-to-face learning. The study further elaborated that various factors, such as limited space for interaction between students and teachers, the readiness of students, as well as limited resources, have decreased students' interest in attending their online classes. This statement is aligned with Bali and Liu

(2018) that students' perceptions of face-to-face learning were higher than online learning in terms of social presence, social interaction, and satisfaction. The rationality goes that when previous research on the effect of PhET Interactive Simulation, which was conducted either face-to-face or a mix between online and face-to-face (Pucholt, 2021; Sitindaon et al., 2017; Yusuf & Widyaningsih, 2019), could be successful but less effective when it is conducted in a fully virtual environment.

In addition, a post-intervention interview was carried out to rule out further the reasons for declining attitudes among students in physics learning. A few students reported limited teacher support when lessons were entirely conducted in a virtual learning environment. Other reasons are that students were likely addicted to online games, causing them to lose interest in studying. Some worked part-time jobs to reduce family financial burdens during this COVID-19 pandemic. However, there were no complaints regarding using PhET Interactive Simulations during their online Physics lessons.

## CONCLUSION

### Summary and Significance of Study

This study examined the effect of physics inquiry learning using PhET Interactive Simulation on students' attitudes toward physics. Many studies have been conducted to determine the effects and advantages of implementing PhET Interactive Simulation in physics teaching. However, very few have been done in a fully virtual learning

environment where students and teachers faced more challenges and obstacles than before during this COVID-19. It came to light in this study that students' attitude toward physics is declining, although the implementation of PhET Interactive Simulation was proven to increase the students' positive attitude toward physics in previous studies (Demeku, 2019; Veloo et al., 2015). Nevertheless, the outcomes of the study notified that the PhET might not be suitable to be applied during the entire virtual environment to enhance students' attitudes in physics lessons; thus, further study is recommended toward this viewpoint.

### Limitation and Suggestions

The researchers conducted this study online as the current COVID-19 pandemic did not allow the researcher to conduct a face-to-face study. Therefore, it might affect the study results. Some students did not turn up during the online lessons due to personal matters, technical issues, school training lessons, and extraneous influences. These extraneous influences or unessential impacts from outside, such as the uncertainty of the COVID-19 pandemic progression, cause unstable emotions among students, especially when they cannot carry out daily activities such as going to school (Ardan et al., 2020).

Therefore, the study recommends that the teachers pair PhET Interactive Simulation with other e-learning tools or platforms to provide better instant feedback and guidance to students in online learning.

The outcome of this study shall alarm all educators that although an approach may be practical during regular school lessons, it may not be the same as conducting in a fully virtual environment.

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*Review Article*

## **A Review of Policies and Regulations of Green Infrastructure Establishment in Kuala Lumpur, Malaysia**

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### **ABSTRACT**

Kuala Lumpur (KL), a capital city of Malaysia has experienced significant development that has led to the fragmentation of urban green spaces. Even though green infrastructure (GI) may address the problem of green space fragmentation, there is a notable gap in the extent to which the existing policies and regulations support the development of GI in KL. Hence, a set of policies and regulations pertaining to GI patch and corridor establishment in KL is reviewed in this study. In total, 77 documents related to policies and regulations that might contribute to GI establishment spatially were studied using thematic analysis. Next, the identified GI elements were themed together based on policies and regulations. The outcomes revealed that most policies and regulations focused on patches with 15 categories, followed by corridors (three categories) and components (one category). A typology of Malaysia's GI from the policies and regulations is prescribed in this study.

The reported findings may catalyse GI planning and establishment in KL for a more sustainable future.

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### **INTRODUCTION**

The world population is expected to hit 8.6 billion by 2030, increase to 9.8 billion

by 2050, and reach 11.2 billion by 2100 (United Nations, 2017). By 2050, cities are projected to hold around 70% of the world's population. As this massive population uses 90 billion tons of raw materials annually, the destruction of natural ecosystems and green space can cause the loss of biodiversity (United Nations, 2019). Hence, protecting these natural resources, including green spaces, is crucial.

The 3<sup>rd</sup> National Physical Plan of Malaysia stipulated that the population in Malaysia would reach 33.8 million people in 2020 and exceed 41.5 million in 2040 (Federal Department of Town and Country Planning, 2016). Referring to PLAN Malaysia 2014, 1,251.79 ha of green and open spaces were short in supply across KL (Danjaji & Ariffin, 2017). Kanniah and Ho (2017) asserted that spatial trends in KL were affected by rapid urban growth, while the master planning strategies caused the fragmentation of green space areas to have less connectivity and shape complexity. It stemmed from poor coordination and monitoring of green space conservation in the Kuala Lumpur Structure Plan 2020 (KLSP 2020) (Nor et al., 2017).

As pointed out by Kanniah (2017), Kuala Lumpur City Hall (KLCH) has made several attempts to increase urban green cover in KL by increasing the overall green coverage (from 24% in 2013 to 30% in 2016) when analysed using satellite images. Most green growth was ascribed to tree planting along major expressways, parks, and recreational woods. While the data reflected an improvement in the

overall green coverage, KL continues to lose its green cover (public parks and forest reserves) due to population expansion and development pressure. According to Rasli et al. (2019), the inadequate policy has worsened the urban sprawl and the fragmentation of green spaces in KL. As the progress of various urban infrastructures has fragmented forests, implementing urban corridors could lower the impact of urban-induced forest fragmentation (Danjaji & Ariffin, 2017). In addition, KL had no formal green network linking with open spaces (Sreetheran & Adnan, 2007). Yeo et al. (2022b) depicted that Malaysia's policies and regulations focused on green spaces instead of GI, thus contributing to the fragmentation of green spaces. The KLCH developed an impressive policy upon adhering to the national policies for green space planning. Besides, KLCH had outlined detailed guidelines for tactical, operational, and reflexive purposes. Imminently, improvements can be attained by formulating an effective GI policy (Yeo, et al., 2022b).

According to Benedict and McMahon (2006), the idea of GI was initially conceived by Henry David Thoreau and Frederick Law Olmsted in 1850. The phrase "green infrastructure" was first coined in the 1990s in the US and later developed into a tool for development and conservation (Mejía et al., 2015). At present, GI is acknowledged as supporting land use in connection with nature conservation and infrastructure planning. As de la Fuente et al. (2018) claimed, mentioning GI in

Europe's Natura 2000 sites is essential for sustaining a healthy ecosystem and providing exceptional ecosystem services. In the US, GI includes natural processes to enhance water quality and regulate water quantity by restoring the hydrologic function of the urban landscape, controlling stormwater at its source, and eliminating the need for new grey infrastructure (Environmental Protection Agency, 2015). Bartesaghi Koc et al. (2017) stated that the geographical context is essential in defining GI when site-specific variables, the study aims, and country-based factors are weighed in. The definition of GI is provided in the following discussion before moving on to further analyses.

### Green Infrastructure as a Solution

Benedict and McMahon (2006) associated GI with an integrated network of natural areas. The corridors serve as a buffer between rapid intervention and growth in the urban setting (Aziz & Rasidi, 2014). The general definition of GI can be interpreted as the

strategic network planning of natural, semi-natural, and artificial spaces to conserve the natural ecosystem, providing ecosystem services beneficial to humans in rural and urban areas.

GI preserves and links natural areas to benefit biodiversity, besides addressing habitat fragmentation to protect flora, fauna, natural processes, and ecosystems (Benedict & McMahon, 2006). The multi-functionality of GI reaches the optimum level when the individual elements, such as parks, forests, and green spaces (individuals), are linked (networks) to form a holistic GI (see Figure 1). Various GI elements and their connections form a network that enables organisms to travel and matter to spread (Davies et al., 2006).

The spatial pattern of patches, corridors, and matrix that forms a landscape is critical in determining functional flows and movements in the landscape (Forman, 1995). This network system supports a vital ecological process contributing to a sustainable landscape (Ahern, 1995; Shi & Qin, 2018). Uy and Nakagoshi (2008) asserted that connected green space ecological values are better than solitary green space. Mell et al. (2017) state that some scholars, organisations, and local perceptions influence the definition. This present study only focused on GI that contributes to ecological connectivity. This topic needs further investigation to accurately identify the individual elements and linkages within the local Malaysian context.

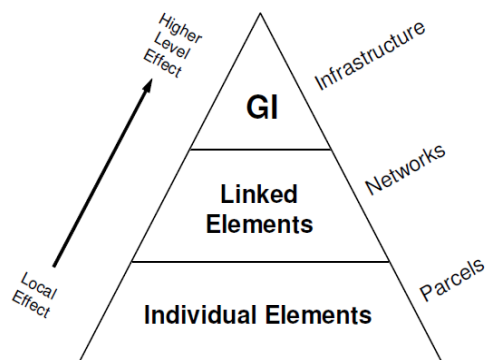


Figure 1. Parcels, network and infrastructure  
(Source: adapted from Davies et al., 2006)

The research questions formulated for this study are:

1. What are the roles of policies and regulations in the planning and development of GI in KL?
2. What types of patches, corridors, and components contribute to the establishment of GI in KL?

Although Malaysia has policies and regulations governing its green spaces, it is imminent to determine if the implemented green space policies are indeed adequate to maintain and contribute to GI establishment. Subsequently, the study objectives are listed as follows:

1. To understand the roles of policies and regulations in establishing GI in KL

2. To identify the types of patches, corridors, and components that can be part of GI

The next discussion elaborates on the method deployed in this study. Thematic analysis was performed on green space-related policies and regulations that can contribute to GI establishment in KL.

METHODS

Type of Documents

In total, 77 documents from policies, plans, acts, guidelines, and non-government organisation (NGO) plans or reports that contribute to GI establishment were analysed in this study (see Table 1). This study also included the draft report, as GI-related documents were scarce.

Table 1  
*Type of policies and regulations*

Level	Policies and regulations
National	11 <sup>th</sup> Malaysia Plan, National Landscape Policy, National Housing Policy, National Policy on Biological Diversity 2016-2025, National Green Technology Policy 2009, National Agro-Food Policy, National Forestry Policy, National Policy on Climate Change, National Sports Policy, National Tourism Policy 2020-2030, Low Carbon Cities Framework, Green Earth Programme, National Community Programme, Smart City Framework, National Urban Policy 2, National Physical Pan 3, National Urban Community Garden Policy, National Policy on the Environment
Structure & Local Plans	KL Structure Plan 2020, KL City Plan, KL Low Carbon Society Blueprint 2030, Strategic Plan KL 2010-2020, Draft KL Development Control Plan 2008, Draft KL Structure Plan 2040

Table 1 (Continue)

Level	Policies and regulations
Guidelines	Urban Stormwater Management Manual for Malaysia, KL Planning Guideline for Building Setback in Landed Housing (Bungalow, Semi detach or Terrace), KL Planning Guideline for Low-Density Housing Development (Bukit Tunku, Taman Duta, Bukit Persekutuan Dan Bukit Damansara), KL Planning Guideline for Submission of Planning Approval Document Digitally, Planning Guideline for Green Neighbourhood, Planning Guideline for Identification of Brownfield Development, Planning Guideline for Healthy Walkable City, Planning Guideline for Community Facilities, Planning Guideline for Theme Park, Planning Guideline for Golf, Planning Guideline For Preservation and Development of Environmental Sensitive Area, Planning Guideline For Housing, Planning Guideline Rooftop Garden, Draft Planning Guideline for Open Space & Recreation, Planning Guideline for Carpark, Planning Guideline for Old Folks Physical, Planning Guideline Erosion and Sediment Control in Malaysia, Landscape Masterplan Manual, National Landscape Guideline, Wayleave for Electricity Supply Line, Planning Guideline for Commercial Area, Planning Guideline for Transport Oriented Development, Planning Guideline for Strata Community Scheme, Planning Guideline for Mix Used (Vertical) in Commercial Zone, Planning Guideline for Infrastructure & Utility, Planning Guideline for Utility Infrastructure, Planning Guideline for Backlane, KL Planning Guideline for Open Space Requirement, KL Shading Tree Management Plan, KL Planning Guideline for Perimeter Planting
Acts	Act 172 Town & Country Planning Act 1976, Act 171 Local Government Act 1976, Act 133, Street, Drainage & Building Act 1976, Act 313 National Forestry Act 1984, Act 716 Wildlife Conservation Act 2010, Act 226 National Park Act 1980, Act 267 Federal Territory (Planning) Act 1982, Act 645 National Heritage Act 2005, Act 418 Water Act 1920, Act 56 National Land Code 1965.
NGOs Plans/Reports	Landscape Architect Agenda, Green Transformation Programme – Think City, MyCrest, Green Building Index

*Note.* Adapted from “Green Infrastructure Transitional Management Sphere Analysis of Policies and Regulations in Kuala Lumpur, Malaysia” by Yeo et al. (2022b).

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### Study Flow and Codes

The thematic approach introduced by Braun and Clarke (2006) was deployed to analyse and synthesise the gathered data. Figure 2 illustrates the study flow of this study. In a study by Yeo et al. (2022b), Atlas.

ti was applied to identify the transitional management sphere analysis for Malaysia's GI policies and regulations. Therefore, the theoretical thematic analysis was executed in this study using Atlas.ti to code GI.

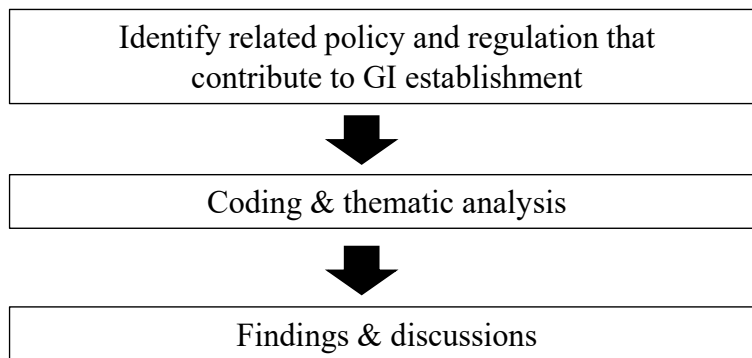


Figure 2. Study flow

Upon referring to Atlas.ti, the code group and concepts for elements are tabulated in Table 2. Saldana (2015) concurred that in a qualitative study, a code refers to a term or a short phrase symbolising a summative,

salient, essence-capturing, and evocative attribute to a segment of language-based or visual data. GI elements were categorised into patches, corridors, and components in Atlas.ti to comprehend the GI typology.

Table 2

*List of code groups and ideas for elements*

Code group	Ideas for elements
Green infrastructure	green infrastructure
Patch—hub/space	any space that shapes like patches, such as a green space, park, or national park
Corridor—network	any linear corridor such as river, pedestrian, railway
Component	single entity in GI, such as a tree, green building, hardscape

While doing so, a constant question determined if the themes and codes are related to telling a compelling story. The

results are presented in the following discussion.

## RESULTS AND DISCUSSION

### GI in Malaysia and Kuala Lumpur

The National Landscape Policy (NLP) describes GI as a network of open spaces, green areas, parks, wetlands, natural habitats, and natural landscapes to preserve ecosystems. This concept conforms to the landscape ecology principle by embedding a patch and a corridor to preserve the ecosystem. Despite the mention of GI in Kuala Lumpur City Plan 2020 (KLCP 2020), the scope emphasises green technology, including sewerage treatment and stormwater management. The GI, which interconnects green spaces, is disregarded in the Malaysian legislation, structure or local plan. Kuala Lumpur Low Carbon Society Blueprint 2030 (KLLCSB 2030), KLSP 2020, KLCP 2020, and Draft KLSP 2040 (Draft KLSP 2040) have been established to link green areas and blue corridors as

urban ecological hubs. East London Green Grid Framework can be an example of developing GI for KL (Greater London Authority, 2008). The following discussion elaborates on the types of patches, corridors, and components that could contribute to GI establishment within the context of KL.

### Potential GI Patches

A list of GI patches and elements (Table 3) was derived from the study of policies and regulations. A patch refers to a non-linear zone that is relatively homogenous and distinct from its surroundings; it serves multiple purposes, such as animal habitat, aquifer recharge zones, species or nutrient sources, and sinks (Ahern, 2007). The patches identified in the analysed policies and regulations in this study were grouped into 15 categories.

Table 3  
*Patches and elements*

Patch	Landscape element
Open space	national park, regional park, urban park, local park, neighbourhood park, playing field, playground
Forest	protected forest, forest reserved, recreational forest, educational forest, permanent forest reserved, wildlife reserve/habitat, timber production forest, soil protection forest, soil reclamation forest, flood control forest, water catchment forest, virgin jungle reserved forest, amenity forest, research forest, forest for federal purposes
Civic spaces	public park, pocket park, urban plaza/square, urban space/landscape, recreational area/ garden, courtyard, sports facilities, state park, district park, green area/space, green lung, social amenities and facilities
Private	private garden, private land, golf, theme park, palace
Education	arboretum, botanical garden, agriculture theme park, floral garden

Table 3 (*Continue*)

Patch	Landscape element
ESA	coastal, water catchment, floodplain, wetland, ex-mining land, pond and river, mineral resources & geohazard, landfill, prime food area, wildlife habitat, cultural and natural heritage
Wetland or waterbody	wetland/pond/lake/waterbody/peat, catchment areas, rain garden, detention pond
Green building	green roof, vertical greenery system
Cultural	rural landscape, native right land
Heritage	historic/heritage sites, cultural heritage area, natural heritage, geological heritage
Neighbourhood	green township, green neighbourhood,
Infrastructure, utility facilities reserved	utility reserved area, graveyard, electric station, satellite ground station, planting space, car park, landscape reserve,
Vacant and derelict	infill, brownfield/disturbed land areas, vacant space, landfill
Public institution	school, school field, military camp, marching field, health complex, nursery
Agriculture	edible garden/community farming/ urban farming, agriculture, agriculture park

**Open Space.** In Malaysia, the Draft Planning Guideline for Open Space and Recreation ascertains the preservation of open spaces in any development under the Act 172 Town and Country Planning Act 1976 implemented by the local government in Peninsular Malaysia. According to Ibrahim et al. (2014), Act 172 enables the local government to have its own set of open space regulations. As a result, the following five approaches to open space policy were deployed by different local authorities: general, ergonomic, land ownership, number of housing areas, and size of the development. Ibrahim et al. (2014) proposed a uniform open space approach to meet the 2 ha of open space target for every 1,000 residents. Table 4

presents the open space hierarchy in KL that differs from the guideline.

Table 4 shows several new open space categories, such as pocket parks and linear green corridors, listed in Draft KLSP 2040. Given the increasing urbanisation scenario in KL, this open space hierarchy should overcome the green space issue. The KLCH also preserves its green area. The NLP and the Economic Transformation Plan (ETP) recommended that 30% of the total land be set aside for government and private agencies to redevelop green areas. However, no further claim or evidence supports this restorative measure. Thus, Act 172 stipulates that KL improve its open space hierarchy accordingly.

Table 4

*Comparison of open space hierarchy of KLSP 2020, Draft KLSP 2040 and PLANMalaysia*

Hierarchy of open spaces in KLSP 2020 (2004)	Hierarchy of open spaces in Draft KLSP 2040 (2020)	Hierarchy of open spaces by PLANMalaysia (2010)
City park	City park	National park
District park	District park	Federal park
Neighbourhood park	Neighbourhood park	City park
Local park	Local park	Neighbourhood park
Local play area	Local play area	Play field
Sports complex	Sports and Recreation	Playlot
	Pocket park	Recreation garden
	Linear green corridor	

**Forest.** The tropical forest in Malaysia is one of the oldest and most diverse in biodiversity. These forests are preserved under Act 313, National Forestry Act 1984, Act 645, National Heritage Act 2005, and Act 716 Wildlife Conservation Act 2010. Different types of forests have different functions and characteristics.

As depicted by Kanniah (2017), in Act 313 National Forestry Act 1984, economic progress takes precedence when conflict sparks between economic development and environmental protection. Section 64 (1) of the National Land Code provides the public officials' revocation of reserved and protected public parks and recreational areas. In 2014 and 2016, Kanniah (2017) reported that the Landsat satellite images detected the loss of 23,88 ha and 11 06 ha in Sungai Besi Permanent Forest Reserve and Bukit Gasing Reserve Forest, respectively. Even gazetted property may be transformed into economically beneficial land uses, such as residential, due to development pressure.

The KLSP 2020, the Draft KLSP 2040, and the KLCP 2020 focus on maintaining forests as part of linked green areas to sustain biodiversity. Hence, one may infer that the KLCH does understand the value of the forest and green spaces in terms of ecological and monetary. However, such open spaces and forests are insufficient to establish GI. Hence, the following potential GI elements should be incorporated into GI establishment proactively:

**Civic Space.** Civic spaces, such as public parks, pocket parks, and plazas, are potential spaces for GI. Civic spaces are public or private areas that are not under the direct authority of the government or conglomerate (Lewinson, 2007). Yusof (2012) suggested city squares, boulevards, waterfront, rivers, and lake embankments as civic spaces for the local context. This present study focused on waterfront and river as corridors. Civic space offers multiple functions. For example, the Beijing Olympic Forest Park

was built for long-term civic and tourist purposes (Wu et al., 2021). In the KLSP 2020 urban space: nodes, plazas, and parks are vital in assigning a city identity, structure, and landscape amenities.

**Private Space.** In this thematic study, the category of private open space was derived from policies and legislation. Yusof (2012) claimed that private space comprises private residential and recreational areas. To develop private recreational open spaces (i.e., golf and theme park) in Malaysia, developers should abide by 10% of the open space requirement. PLANMalaysia has outlined guidelines for golf courses and theme parks. Eriksson et al. (2015) explained that golf arenas located in the conservation area are governed strictly to protect the biodiversity aspect of that area. Besides adhering to standard guidelines, Malaysia should adopt an ecological policy so that golf or other private areas offer multi-functionality and are ecologically sound. In KLSP 2020, the KLCH ensured that the existing private open spaces and other empty places were adequately landscaped. Tahvonen and Airaksinen (2018) claimed that private garden in low-density housing is part of urban green spaces based on their vegetation and biodiversity potential. Malaysia's residential area is developed in accordance with the 10% open space requirement. However, the private garden is under the control of the house owner. Hence, the question is, "How to integrate private gardens as part of GI in Malaysia?" Tahvonen and Airaksinen (2018) stated that

a private garden is difficult to manage, builds on ineffective land use, and may cause a disservice. However, it has intriguing potential for resilience in sustainable cities.

**Educational Space.** In an effort to let people value nature, green educational space is significant. Schweitzer and Gionfra (2018) listed the benefits of nature-based education that significantly contribute to one's mental and physical well-being. Such education also benefits the community by improving social cohesion and labour productivity, minimising public expenditure on healthcare, and enhancing planetary sustainability. Mat Nazir et al. (2014) posited that botanical garden offers recreational, educational, and tree preservation opportunities. Nature and park activities provide educational and learning opportunities that continue educating the public's sense of ecological awareness, besides cultivating civic pride (Wu et al., 2021). In support of this measure, Draft KLSP 2040 have organised health, educational, entrepreneurship, and other green space activities. Education and awareness play a key role in accelerating the adoption of GI by discarding cognitive blocks (Dhakal & Chevalier, 2017).

#### **Environmentally Sensitive Areas (ESA).**

Malaysia Environmentally Sensitive Areas (ESA) consist of three ranks based on conservation priorities: ESA Hazards, Life Support System, and Heritage Value. PLANMalaysia outlines nine contexts for ESA: (1) coastal, water catchment, and water source, (2) floodplain, wetland, ex-mining land, (3) pond and river, (4)

mineral resource and geohazard, (5) landfill, (6) food production area, (7) wildlife habitat, (8) permanent reserve forest, as well as (9) natural and cultural heritage. The ESA in Malaysia is a reasonable basis for implementing GI as it blankets a wide range of areas that can be potential GI elements. Ndubisi et al. (1995) disclosed that ESAs and the linked landscape components serve as a vehicle for creating greenway corridors that function first as a conduit for wildlife migration and secondarily as zones for water quality protection. In KLCP 2020, ESA is a valuable natural resource that must be protected and conserved for the sustainability of KL. It was also followed up by Draft KLSP 2040 to supervise development on highlands.

**Wetland and Waterbodies.** Malaysia's wetlands and water bodies must be protected as some wetlands, such as peat swamps, have unique biodiversity. Stefanakis (2019) elaborated that placing multiple constructed wetlands across a GI network enables treated effluents to create new habitats for irrigation and open space. Wetlands linked to urban ecological corridors help create large-scale multifunctional landscapes that modify the character of urbanised development. It is addressed in KLSP 2020, KLCP 2020, and Draft KLSP 2040. Hence, wetlands should be included in Malaysia's GI. One example is the transformation of an abandoned tin mining lake into the Titiwangsa Public Park by the KL local authorities (Nor Akmar et al., 2011).

**Green Building.** In light of technology, green buildings apply green roofs and vertical greenery as substitutes in urban areas. Green roofs provide ecosystem services as a larger strategy to develop GI in urban areas (Carter & Fowler, 2008). In Malaysia, the Green Building Index (GBI) was deployed as the green building and town rating system to achieve a sustainable built environment. Nizarudin et al. (2012) listed three components of environmental conservation in the GBI: The first is maintaining existing natural spaces or increasing soft landscaping areas to offer habitat, increase biodiversity, and minimise the heat island effect. The second component is encouraging habitat preservation, restoration, and biological diversity by including native or adapted plants, as well as increasing the open space available on grades or rooftops. The last component is maintaining a high open space-to-development footprint ratio to promote biodiversity and counteract the heat island effect. The GBI should have a specific GI index that contributes holistically to GI. Vertical green density in Draft KLSP 2040 and KLLCSB 2030 can enhance the quality of life in the city while concurrently benefiting the environment by decreasing the effect of urban heat islands and improving air quality to meet KL's Low Carbon City goal. This approach applies to all high-density new construction and redevelopment zones for mixed-use, residential or commercial purposes. PLANMalaysia introduced the Planning Guideline for Green Roof Gardens for green roof construction and planting.

The 10% open space policy established by PLANMalaysia for each development application may be challenging to execute in developed areas. To date, only a few local authorities have approved green roofs. The full potential of green roofs as a GI element is largely untapped.

**Cultural Land.** Kilbane (2013) states that de facto areas, such as Indigenous Protected Areas, are included in the GI plan. Malay reserve land or *kampung* area is a potential aspect of GI with a wide range of green space. Malaysia's indigenous people lead a unique lifestyle by incorporating the forest element. It is captured in the National Forest Policy and National Policy on Biological Diversity to develop conserved community areas as an integral part of the protected area. As Ubaidillah et al. (2018) explain, the *Tagang* system offers several benefits, such as providing economic income to protect the river's ecology. There is a need to encourage community participation and agreement in this measure. Referring to KLSP 2020 and Draft KLSP 2040, the KLCH ensures the redevelopment of Malay reserve areas and traditional *kampung*, including their unique design features that reflect their historical and traditional character.

**Heritage Area.** Historical heritage, landmarks, and mature trees, as well as native species in Malaysia, are excellent choices for preservation (Hasan et al., 2016). For example, urban heritage trees were inventoried to identify the species and nature of heritage trees in Bangkok to enhance their GI (Thaiutsa et al., 2008). Act 645 The

National Heritage Act 2005 provides more details on elements that can be part of GI. The Greater KL proposed revitalising the Klang River into a heritage and commercial centre. As such, KLCP 2020 encouraged the urban heritage to be expanded as part of the city's urban tourism. As identified by the KLCP 2020, the heritage zone refers to an area of architectural or historic interest and character desirable to preserve or conserve. Therefore, heritage areas can be part of GI in KL upon adhering to proactive policies and actions incorporating green space.

**Neighbourhood.** According to Marzukhi et al. (2012), green network connections of open space should be linked to each home. According to experts, purchasers are prepared to pay more for a home with excellent environmental characteristics (Tan, 2011). Small-scale or community-scale in GI complements the social and economic functions attributed to strategic scale projects (Jerome, 2017). In the National policy, a guideline on the green neighbourhood was introduced by PLANMalaysia. This situation creates green space inequality, where rich people can afford to own a house with more greenery than the poor. This issue should be addressed by the government carefully. KLSP 2020 and Draft KLSP 2040 emphasise facilities, such as neighbourhood parks, in the neighbourhood area. The GI can be a catalyst for developing a sustainable residential area.

**Infrastructure, Utility and Facility Reserve.** It is necessary to design residual mobility-related green space for urban

context as part of a more extensive multifunctional GI system, which can link other urban green areas and appropriate open spaces across the city (Dall'Ara et al., 2019). Hence, the utility facilities area can be part of GI. The landfill, for instance, can be part of the open green space, whereas the electric utility line can be part of the corridor. The cemetery is also a ubiquitous GI component in the urban setting. Cemeteries designed as urban woodland can be part of the heritage and biodiversity preservation in urban GI (Kowarik et al., 2016). Undoubtedly, the existing cemeteries contribute significantly to the city's increasing biodiversity, while cemeteries designed with a park idea enhance public health and enjoyment (Alfa & Reza, 2012). Apart from ecological and aesthetic considerations, abandoned places have functional and social significance (Gałęcka-Drozda & Raszeja, 2018). Draft KLSP 2040 encourages sharing utility, river, and road reserves for other purposes, such as community gardening, public/pocket parks, playgrounds, as well as pedestrian and bicycle lanes.

**Vacant and Derelict Area.** In the context of São Bernardo do Campo, Sanches and Pellegrino (2016) found that only 40% of vacant and derelict land had high potential for greening, 40% displayed medium potential, and 20% exerted low potential. In Xuzhou, a coal mine brownfield was checked for GI's potential restoration to assist reclamation quantitatively (Feng et al., 2019). It highlights the pressing need to comprehend vacant and derelict spaces in detail due to the presence of

different indicators. Newman et al. (2017) reported that vacant land might link existing ecological patches with a less negative impact on development potential while enhancing ecological service provision. In Draft KLSP 2040, for example, infill development on the vacant or abandoned area is encouraged to promote more investment by turning it into an opportunistic space for GI. A Planning Guideline for Brownfield was prepared by PLANMalaysia that adheres to the National Physical Plan. Draft KLSP 2040 signifies that undeveloped land on government property, government land reserves, and private land should be managed efficiently and productively.

**Public Institution Area.** According to Iojă et al. (2014), the school field is a part of GI. Other public institutions should also incorporate GI elements to enhance their structural connectivity besides serving as an ecological stepping-stone. In the Draft KLSP 2040, shared school fields can be utilised to improve the quality and diversify the activities of parks and open spaces. Other institutions, such as military camps, marching fields, and health complexes, can incorporate a similar approach.

**Agriculture Area.** Evaluating edible GI implementation offers city planners and policymakers more practical suggestions for green space protection and management (Russo & Cirella, 2020). The National Agro-Food Policy (NAP 4) Malaysia was established to address issues in local and global markets to guarantee food security and safety via sustainable agriculture

(Dardak, 2015). Therefore, sustainable and productive farms may form part of the connectivity networks (Reza & Abdullah, 2010). The Green Earth Programme, proposed by the Ministry of Housing and Local Government, was executed by the local government to help the local people produce agricultural products for self-consumption or income generation. In 2021, the National Community Garden Policy was initiated for housing areas, abandoned green space, utility reserve areas, community amenities and facilities areas, as well as river reserves. While securing agricultural land in a city is difficult, each minor green space substantially contributes to GI creation. Draft KLSP 2040 and KLLCSB 2030 promote community garden and urban farming collaboration in green space design with local communities.

**Summary of Patches.** In Draft KLSP 2040, Biodiversity Protection Zone was proposed. This zone encompasses permanent forest, field and recreational land, rivers, and water bodies prioritised in nature-integrated urban development. It can be summarised that GI patches have much potential to contribute to GI as a holistic entity. Furthermore, creativity and proactive measure were applied in creating these policies and regulations. However, there is a need to incorporate other GI corridors and components into the policies and regulations.

### Potential GI Corridor

A corridor is a linear stretch of a specific land cover type that differs from its surroundings in content and physical structure (Forman,

1995). Corridor offers a niche, shelter, food, and security for urban wildlife, thus allowing them to thrive and migrate from one patch (green space) to another (Alias et al., 2014). The establishment of corridors is the least acknowledged in the policies reviewed, whereby only the NPP offers a central forest spine to reconnect the scattered forest regions across Peninsular Malaysia (Danjaji & Ariffin, 2017). A continuous network of open spaces was envisioned to connect the main open spaces through a network of smaller open spaces, as well as river and drain reserves (Azwar & Izham, 2009). Modica et al. (2021) identified an ecological network by assessing the structural and functional connectivity in Italy. Table 5 lists the corridors and elements identified from the analysed policies and regulations. This study defines the corridor element as an ecological entity with a linear characteristic.

**Blue Corridor.** Referring to the Draft KLSP 2040, the blue corridor comprises river reserves, drains, and water bodies (e.g., catchment ponds, natural lakes, and former mining areas). Lake and pond, however, are considered as a patch in this study. The contaminated Klang River demands substantial treatment before being used domestically (Manaff et al., 2020). It calls for remedial efforts for the river. The Act 645 National Heritage Act of 2005 protects and preserves national heritage, including natural heritage and rivers (Latip et al., 2010). Guidelines for rivers, river reserves, and waterfronts were formulated for local governments (Yassin et al., 2011). The initial relationships among hydrology, topography, and geology can unveil the

Table 5

*Corridors and elements*

Corridor	Element
Blue corridor	river/river reserved, coastal/shoreline, marine ecological corridors, mangrove
Green corridor	green belt, green corridor/linkages, green network/trail, central spine link
Function corridor	ecological linkage/corridors, road median, boulevard, pedestrian network, bicycle network, utility reserved corridor, road/street, railway, back-lane/side-lane, drainage reserve, heritage trail

blue infrastructure's logical and site-specific distribution (Deak & Bucht, 2011).

The Klang River should be revived as a cultural and economic centre for the Greater KL in ETP. The River of Life (RoL) identified in the Greater KL under the ETP has been projected to convert Klang and Gombak Rivers into dynamic, liveable waterfronts with significant economic value to catalyse the goal of KL towards becoming a sustainable city. The National Sewerage Department, the Department of Irrigation and Drainage, as well as the KLCH, are responsible for the project. Enforcement and further planning are in need to preserve specific locally rare or endangered species, the whole mangrove ecosystem, and the essential ecological services (Jusoff, 2013).

**Green and Functional Corridors.** The green corridor denotes a physical factor influencing urban wildlife behaviour movement (Aziz & Rasidi, 2014). Developing green corridors is a solution that can overcome the effect of fragmented green space (Danjaji & Ariffin, 2017). As for the functional corridor for humans, it serves socio-cultural purposes. Several

elements, including streets in the urban GI, may be embedded and utilised to expand the network (Tudorie et al., 2020). In KLSP 2020, Sreetheran and Adnan (2007) claimed that green networks, which consist of road, utility, river, drainage, and railway reserves, offer sustainable living environments for wildlife. KLLCSB 2030, KLCP 2020, KLSP 2020, and Draft KLSP 2040 proposed a green network plan that included pedestrian, heritage trails, and cycling paths. This green network serves as a functional corridor for humans. Draft KLSP 2040 also proposed the development of park connector networks comprising utility corridors, riverside corridors, back lanes, road and drainage reserves, as well as private development. The proposed ecological corridor is connected via three green landscape corridors comprising linear corridor, eco-stepping stone, and landscape. Such a measure surely contributes to GI establishment. Moreover, KL is eager to apply its resources to optimise GI. Since protecting the corridor protects merely the structural element of ecology, there is a pressing need to comprehend ecological connectivity.

Potential GI Component

The elements in Table 6 were derived from the analysed policies and regulations. The GI elements have the characteristic of singularity and are unfit to be classified as patches or corridors. Some GI elements (e.g., trees) are vital for creating GI. For instance, pedestrian bridges, roundabouts, wildlife crossings, permeable surfaces, swale, and buffers can be embedded in GI establishment and planning.

The economic worth of the trees may be estimated based on their age, size, species, condition, and function (Mohd Hashim & Hitchmough, 2015). Despite implementing Tree Preservation Order (TPO; Act 172) in Malaysia, problems still emerge. For example, the developer or contractor may reduce development costs by cutting down trees (Mohd Hashim & Hitchmough, 2015). Sukri et al. (2020) proposed a conceptual framework that consists of

Table 6  
*Component and elements*

Component	Element
Component	tree/canopy cover, pedestrian bridge, roundabout, wildlife crossing, swale, buffer, perimeter planting, permeable surface

four key components: publicity, tree list, planning permission Standard Operating Procedures (SOPs), and enforcement strategies based on the TPO (Act 172) to ensure the legislation is effectively applied in construction projects.

The 100 million trees planting campaign led by the Ministry of Water, Land and Natural Resources promotes trees, green space, and forest preservation. This campaign aims to plant 100 million trees by 2025 by involving other ministries and departments in Malaysia. This campaign is promoted via a website and application to record tree-planting statistics, donation programmes, and rewards.

The KLCH plans to increase its tree planting efforts from 25,000 to 100,000 trees, according to ETP, focusing on big coverage trees to provide the appearance and

feel of green corridors. The KLLCSB 2030 has established a tree inventory, a 15-year tree planting plan, a ‘one resident, one tree programme’ to instil diversity in the tree population programme, the development of standards for species at specific locations, and the native tree seedlings project. In Draft KLSP 2040, tree coverage is increased across KL, similar to the efforts made in other global cities.

Dall’Ara et al. (2019) claimed that roundabouts are potential GI elements by assigning roundabouts as wildflower areas, rain gardens, urban grooves, and dry gardens. In Ethiopia, designing permeable surfaces and planting green areas with grey structures were executed to protect cities from flooding (Girma et al., 2019). Meanwhile, Tudorie et al. (2020) considered stripes of the green, green roundabout,

and even non-tree greenery (e.g., shrubby or grassy road verges) in their study. In Singapore, the greenway was established by utilising buffer zones adjacent to existing water canals and designing canal banks with ecological restoration and pedestrian paths (Sini, 2019). However, a question continues to linger about integrating all these components into GI in KL. It can be deduced that trees have been the primary focus of most policies and regulations compared to other components. Notably, including other components to achieve a holistic GI is crucial.

### **GI Elements and Planning Framework**

This discussion presents a planning framework for establishing GI in KL to connect the findings discussed in the previous discussion. According to Bartesaghi Koc et al. (2017), the four categories of GI are (a) tree canopy, (b) green open spaces, (c) green roofs, and (d) vertical greenery systems (facades/walls). Nonetheless, these categories have drawbacks in identifying GI patches, corridors, and components in the Malaysian local condition. The Ahern (1995) planning strategy and the local GI patch, corridor, and component were used to define the type of element that enables a more rigorous comparison and systematic presentation of the findings.

Given the different types of typology, the GI elements in a local scenario should be categorised as outlined by Ahern (1995; see Table 7). The framework gathers the required information to assist in the decision-making process so that the GI

can be set as a mainstream mechanism of urban infrastructure. The four measures in the planning framework are protective, defensive, offensive, and opportunistic. These measures are tabled with patches, corridors, and components to identify the elements systematically.

The landscape elements derived from the policies and regulations provide opportunities to determine elements that could be used in GI planning, as most policies focused on an individual element for GI space. The policies concentrated on patches above corridors and components. This scenario protects more patches than corridors, thus leading to green space fragmentation. The ecological connectivity part of GI must be strengthened to achieve sustainable landscape planning. Any legislative limitations on open areas, such as setbacks, that prohibit the use of such places for GI should be repealed, while technically feasible GI should be permitted in such areas (Dhakal & Chevalier, 2017). Therefore, this framework is beneficial for future GI establishment and planning.

The integration of GI elements might provide multifunctional GI. Creativity in planning and designing GI is essential as well. For example, a utility reserve corridor as an urban farming area for urban dwellers might require specific guidelines to support the activities and facilities. Hence, future GI studies should remember that each location or study is unique. Future scholars should adequately choose methodologies such as scale, data, and analytical tools (Yeo et al., 2022a).

Table 7

*Planning framework for GI in Malaysia*

Planning Framework	GI Patch	GI Corridor	GI Components
Protective: provides proactive measures to protect landscape components that are in good condition before they are endangered by change or development	Environmentally Sensitive Areas (Coastal, water catchment, floodplain, wetland, ex-mining land, pond and river, mineral resources & geohazard, landfill, prime food area, wildlife habitat, cultural and natural heritage), permanently reserved forest, wildlife sanctuary, wildlife reserve, national park, natural heritage, national heritage, forest, waterbody	river, central spine link,	tree
Defensive: Attempting to protect landscape features that are under threat from development	open space (national park, federal park, urban park, local park, neighbourhood park, playfield, playlot, recreation garden, detention pond), agriculture, amenities space, reserved land, national heritage, site, private land, education space, neighbourhood, cultural land	road median, boulevard, pedestrian network, bicycle network, road/street, railway, back-lane/side-lane, drainage reserve, heritage trail	a pedestrian bridge, roundabout, permeable surface, swale, buffer zone
Offensive: Taking corrective or restorative measures to restore abiotic, biological, or cultural functions where they are presently absent	landfill, brownfield/ disturbed land areas	polluted river	wildlife crossing

Table 7 (Continue)

Planning Framework	GI Patch	GI Corridor	GI Components
Opportunistic: Recognise the possibility of non-contributing landscape components being handled or organised differently to fulfil particular purposes.	vacant, utility facilities	utility reserved corridor, drainage reserve	green building (roof garden, vertical greenery)

## CONCLUSION

This paper's policies and regulations analysis framework unveils the status and sheds light on how policies and regulations can provide GI establishment in Malaysia, especially in KL. The GI typology proposed in this study enables practitioners and policymakers to improve GI establishment by providing basic knowledge on strategically identifying GI elements.

Although the Malaysian government intends to protect the environment, its policies lack GI planning and establishment. The findings indicate that Malaysia's planning policies and regulations are insufficient to protect and establish GI due to their emphasis on patches while disregarding corridor establishment. The GI component must be highlighted, especially when all these components can exert collective effects. Strategically, the GI policy should be included at the national level so that other policies and regulations can adhere to it. Notably, the KLCH is making a great effort to develop structure, local plans, and guidelines that contribute to green spaces and even GI. Further steps should be taken in designing GI as the ecological corridor

in KL by analysing the GI structure and its functional connectivity. The KLCH did improve the open space hierarchy in KLSP 2040. However, an urban area like KL faces some obstacles due to land constraints. Therefore, not all the important elements listed in Table 7 could be utilised due to some setbacks.

In conclusion, the findings of GI typology in this study should be incorporated into the GIS and remote sensing spatial planning to establish GI. This method may lead to a more systematic identification of elements for future GI planning to ascertain a better ecology and a sound environment. This study may be enhanced by incorporating upcoming policies and regulations.

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## **An Analysis on Youth Drug Abuse: Protective and Risk Factors in High-Risk Area**

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### **ABSTRACT**

Drug abuse is considered a serious social problem, especially among youth. Those who successfully survive such behaviors, especially in high-risk locations, must have underlying factors worth learning. This research focuses on youth who can avoid using and abusing drugs in high-risk areas. The main objectives are to identify protective factors (PF) that successfully protect youth in high-risk locations and to examine the presence of risk factors (RF) in that particular community. Data were collected through ten focus group discussions (FGD) with youth participants who lived within identified hot spot high-risk areas of drug abuse. Each group contains five participants, which makes up a total of

fifty youth participants. The FGDs were audio-recorded, followed by the transcribing process and the thematic data analysis. The finding shows that themes for protective and risk factors are divided into internal and external factors. Internal protective factors are represented mostly by religious knowledge and practice, followed by self-assertiveness. External protective factors are denoted by positive family influences, positive peer influence, and knowledge of drug abuse. On the other hand, internal risk factors epitomize the feeling of curiosity, lack of religious knowledge and practice to

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release pressure and stress, lack of effective coping skills, and seeking fun. External risk factors embody negative peer influence, lack of parenting skills, negative family influence, and negative neighborhood environment and occupation.

*Keywords:* Drug prevention, focus group discussion, external factor, internal factor, protective factor, risk factor, youth

## INTRODUCTION

The United Nations (2020) stated that substance abuse cases increased from 210 million to 269 million from 2009 to 2018. In Malaysia, substance abuse statistics increased from 130,788 in 2018 to 142,199 cases in 2019 (National Anti-Drug Agency [NADA], 2019), even when Malaysia declared drugs as its number one enemy on 19th February 1983. Substance abuse affects a person physically and biologically, including social relationships, career, and mental health. Various agencies, including governmental, private sectors, and Non-Governmental Organizations (NGOs), made many efforts to overcome drug-related issues. According to the National Anti-Drug Agency (NADA, 2019), 879 prevention programs have been conducted through eight different types of programs, which are Family on Alert (FOA), Kem Pintar, Kem SHIELDS (Sayangi Hidup Elak Derita Selamanya), Tomorrow Leader, Tekad Awam, Tekad Swasta, Tekad Agronomi, Kem SMART (Sukses, Matang, Aktif, Rasional dan Tanggungjawab).

Substance abuse is a chronic relapse disease that affects everyone regardless of age, gender, and socioeconomic status. The statistics of drug abuse in Malaysia show a huge increment in youth addiction. NADA (2019) stated that youth substance abuse cases had increased from 18,417 in 2018 to 18,986 cases in 2019. Over that period, an increase of around three percent per year occurred in youth drug addictions. Typically, youth with a high risk of substance abuse possessed standard risk criteria such as being involved in wrong behaviors, breaking the rules, or being in an environmental setting that led them towards wrong behaviors (Ismail et al., 2015). Additionally, Ismail et al. (2017) stressed that youth, especially those living in identified hot spots of high-risk locations with drug users, are more exposed to the influence and risk of taking substances.

Protective and risk factors are the main factors involved in drug prevention studies. The principle of prevention program stated by NADA mentioned that an effective prevention program must highlight the risk and protective factors within the community (Zakaria et al., 2020). PF is the best and most effective method of reducing the cost of substance abuse treatment (Arip et al., 2015). Inadequate quality prevention programs would increase the addiction rate, increasing the cost incurred for rehabilitation treatment (Arip et al., 2015). NADA implemented various efforts in drug prevention programs to spread awareness, especially for the young generation (Zakaria et al., 2020). However, the statistical data may have

something lacking in the existing prevention programs. Understanding the protective and risk factors related to prevention can significantly contribute to preparing better quality modules for drug prevention. The outcomes may help strengthen the existing drug prevention programs in Malaysia overall. Thus, this study aims to identify the protective and risk factors among youth, especially those living in high-risk areas.

The Theory of Protective Factors (PF) and Risk Factors (RF) by Hogan et al. (2003) argued that no single theory could present drug prevention comprehensively. Instead, prevention aims to reduce risk and strengthen protective factors (Hogan et al., 2003) such as based on David Hawkins et al.'s 1992 work. Hawkins et al. (1992) identified that protective and risk factors for adolescent substance abuse and delinquency are closely related. He further defined protective factors as factors that counter risk and contribute to lessening the risk. It is divided into three categories: individual characteristics, bonding, healthy belief, and clear standards. Individual characteristics refer to characteristics that children are born with, such as gender, resilient temperament, and intelligence. Though intelligence does not prevent substance abuse, it prevents other negative social behavior such as school drop-out and delinquency. Bonding represents positive bonding with family, friends, schools, and the community, preventing the children from engaging in social problems. Finally, healthy beliefs and precise standards are related to the caregivers, teachers, or other adult children

bonded with, whereby they should have clear and positive standards of behavior.

Hogan et al. (2003) accentuated that those studies on protective and risk factors were divided into four categories: individual or peer, family, school, and community. This study brings forward two important primary questions in the FGD sessions. First, what factors prevent youth from being involved in drug addiction? Second, what risk factors contribute to youth involvement in drug addiction? The research methodology employed is explained in the next section. Thus, the main objective of this paper is to identify youth protective factors (PF) that safeguard drug-related behavior. The second objective is to examine the risk factors within that community.

## METHODS

This study is a preliminary needs analysis study that uses the qualitative approach to identify protective and risk factors of youth living in the hot spot area. Data were collected from participants through focus group discussion (FGD) interview sessions. Qualitative research addresses social problems that affect practitioners' detailed descriptions and allows inferences on life's experience (Bloor, 2016). FGD is based on the experience and observation of the respondents from their understanding of how people feel or think about an issue, idea, product, or service (Krueger & Casey, 2014).

Participants discuss and counterargue, like in informal settings (Lauri, 2019). It uncovers a broad range of factors and

perspectives within the issue discussed. The FGD interview was conducted in the Malay language using an interview guide. A pilot was done before the real interview to improvise and correct the interview guide. There is no involvement of any psychometric instrument in this study. For this article's purpose, the researchers translated and checked quotes from the participants. Ten FGDs represent the districts concerned in this study. Each FGD is conducted by one moderator who spends around two hours per session.

This study's samples are youth living in the hot spot area. They selected using the purposive sampling method; thus, the findings could not generalize to the whole community. The researchers are experts and have been engaged in other drug addiction research before. Thus, the bias expected to reduce. The findings are not intended to label or categorize the youth community but to produce proper prevention programs that suit well with the community. This qualitative research used a one-off interview protocol, and there is no involvement of experiment or intervention; thus, there is no direct effect on the participant. This study also received human ethics approval from two ethics boards: Universiti Kebangsaan Malaysia (UKM PPI/111/8/JEP-2020-174); and Universiti Sains Islam Malaysia (USIM/JKEP/2022/-202).

### **Sampling Method**

Purposive sampling was used in this study to represent the specific scope of the sample size. In comparison, snowball sampling was

used later to facilitate the proper choice of the genuine participant in this study. Purposive sampling allows the researchers to select individuals to learn or understand the central phenomenon. Snowball sampling is a form of purposeful sampling that typically proceeds after a study begins and occurs when the researcher asks participants to recommend other individuals to sample (Creswell, 2015). Five participants in one group and ten groups from five states in Malaysia participated in this study.

The participants encompassed youth living in the hot spot area of drug substance abuse. The main criteria for the participants in this study are youth aged 19 to 39 years old. This definition of youth follows the definition by NADA (2019). NADA secretariat referred to five states that recorded high cases of substance abuse in Malaysia. Then, two districts were chosen from each state. Researchers contacted the community leaders for a referral of suitable participants for this study. Individuals who fit the inclusion and exclusion criteria are selected. Participants were selected based on three inclusion criteria: (1) youth aged 19 to 39 years, (2) youth who live in a high-risk area listed by NADA, and (3) youth who do not involve in substance abuse. The exclusion criteria for the sample selection are (1) youth involved in substance abuse and (2) youth diagnosed with mental illness. The sampling method steps are the following:

- (1) Define youth aged 19 to 39 years.
- (2) Received a referral from NADA to the states that recorded high cases of substance abuse in Malaysia.

- (3) Five states with the highest drug addiction statistic identified.
- (4) Obtained from NADA the list of the district with the highest drug addiction in the five states.
- (5) NADA provides the contact of the head of villages in the hot spot districts.
- (6) Obtained the list of respondents that meet the criteria from the head of villagers.
- (7) Used the snowball method to obtain more respondents from the referral given by the head of villages.

### Data Collection Procedure

FGD was conducted via Google Meet due to the Covid-19 pandemic. The moderator informed the participants of the FGD sessions by telephone, including the date and time. Every ten respondents from the same district area were put together in the FGD for online Google Meet sessions. All sessions were moderated by the enumerators trained earlier by member researchers. Moderator reminds the participants to check for internet stability and enter the discussion room fifteen minutes earlier to ensure it runs smoothly. The interview session began once the internet stability was confirmed. Each session lasted for two hours, after which tokens and certificates were given to the participants as appreciation. The recorded interviews were transcribed and analyzed using thematic analysis, where the data were coded, and themes were built accordingly. The reliability of the interview guide

was tested through the rater's evaluation. Two raters with experience in conducting qualitative research were appointed for the interview guide evaluation. Rau and Shih (2021) supported that two raters are enough to calculate the coefficient value. Researchers calculated the agreements coefficient value using Cohen's (1960, 1968) formula as follows:

$$K = \frac{fa - fc}{N - fc}$$

K = Coefficient value

fa = Observed agreement

fc = Probability of chance agreement

N = Units of item

After calculating the total score for the Kappa agreement, the fa values for the two raters were: (1) Rater 1 = 8 and (2) Rater 2 = 9. The probability of chance agreement fc is 50% from the chance agreement (fc = 1); meanwhile, the value N refers to the total item evaluated, N = 2. After calculation, the coefficient value for rater 1 is 0.7, and the coefficient value for rater 2 is 0.8. Rau and Shih (2021) stated that Kappa often interpreted by using the scale proposed by Landis and Koch (1977). The coefficient value between 0.61-0.8 is substantial. Thus, the coefficient value for the interview guide accepted.

### Data Analysis

Data were analyzed using thematic analysis. It is a method for identifying, analyzing, and interpreting meanings (themes) for qualitative data (Clarke & Braun, 2015). The



Table 1 (Continue)

Objectives	Themes	Frequency	Percentage (%)	Categories
2. To examine the risk factors of the community in a hot spot area	• The Feeling of Curiosity	15	25.4	Internal Factors
	• Lack of Religious Knowledge and Practice	15	25.4	
	• Release Pressure and stress	13	22.0	
	• Lack of Effective Coping Skill	9	15.3	
	• Seeking for fun	7	11.9	
	<b>TOTAL</b>	<b>59</b>	<b>100</b>	External Factors
	• Negative peer influence	39	41.9	
	• Lack of parenting skill	26	28.0	
	• Negative family influence	11	11.8	
	• Negative neighborhood environment	10	10.8	
	• Occupation	7	7.5	
	<b>TOTAL</b>	<b>93</b>	<b>100%</b>	

Note. N=50

The result of analysis started from the first finding of PF to protect the youth from engaging in substance abuse activities. The study shows that themes for protective factors are divided into internal and external factors. This study's internal protective factors (PFIF) are religious knowledge, practice, and self-assertiveness. However, external protective factors (PFEF) include positive family influence, positive peer influence, and knowledge of drug abuse.

**Protective Factors-Internal Factors (PFIF).** PFIF represents temperament, skills, and personality constitute the core of internal protective factors (Daniilidou & Platsidou, 2018; Wagnild, 2016). The themes for religious knowledge and practices

included youth performing obligatory prayer, having a proper religious education, and having knowledge of substance abuse. Performing obligatory prayer prevents them from engaging in substance abuse. Y-J-1 mentioned:

*“I do take care of my obligatory prayer every day. It is the promise of Allah that He will protect us from any wrongdoings.”*

Other participants also mentioned the importance of religiosity and consistent discipline in practicing religion according to the knowledge gained. Y-K-3 revealed:

*“We can see here merely having knowledge of religion can't prevent from the wrongdoings; it is the practice from the knowledge gained.”*

The second theme derived from PFIF is self-assertiveness. Y-KT-1 stated that being assertive is one of the vital skills to face high-risk situations:

*"I consistently decline the offer of having cigarettes weed from my old school friends."*

**Protective Factors–External Factors (PFEF).** PFEF External factors relate to the environmental context in which a person operates and develops, such as the community, family, culture, school, and colleagues/peers that influence the development of resilience (Daniilidou & Platsidou, 2018). The themes forming the category of external protective factors (PFEF) are positive family influences, positive peer influence, and knowledge of drug abuse. Y-S-5 responded to positive family influence.

*"My parent did educate us about drugs and their harm."*

Positive peer influence is another theme derived from the study, where participants mentioned that adolescents usually spent more time with their peers than with their families. Thus, it might affect their personality, attitude, and behavior. Y-K-1 mentioned:

*"It is important to choose with whom we want to be friends."*

Knowledge of drug abuse is also one of the themes in PFEF. Participants mentioned that they received much information and new knowledge through the prevention program implemented during primary and secondary

school. The program included video shows on the lives of drug addicts that intrigue children's mindset on the harmfulness of drugs and substances. NADA implemented several prevention programs, especially for primary and secondary schools. Y-J-6 mentioned:

*"When NADA went to my school doing exhibition and showed videos about drugs and what does it cost to engage in illegal behaviors. It gave me insight of scared in engaging with drugs." "I saw how they live. It scared me to be like that." (Y-S-5).*

Naseemullah et al. (2019) stressed that the age of adolescents is very vulnerable since it exposes them to various environmental and academic or social problems. Hence, receiving knowledge and information about drugs at a younger age effectively prevents substance abuse behavior among teenagers and youth.

The second finding focused on the risk factors faced by the youth that live in the hot spot area. Two categories are derived from the FGD internal risk factors (RFIF) and external risk factors (RFEF). The themes that emerged for RFIF epitomized the feeling of curiosity, lack of religious knowledge and practice, the release of pressure and stress, lack of efficient coping skills, and seeking fun. The discussions on RFIF are represented in the next section.

**Risk Factor–Internal Factor (RFIF).** The internal risk factor for substance abuse emanates from the inner self, usually from an emotional state or thought process. Once these factors are identified, avoiding them

can take more effort. These internal risk factors occur unconsciously, making them important to identify and avoid (Christopher, 2020). Thus, internal risk factors (RFIF) derived from this study include the feeling of curiosity, lack of religious knowledge and practice, the release of pressure and stress, lack of coping skills, and seeking fun. The feeling of curiosity is to try something new. Y-KL-3 mentioned:

*“I have a friend who is involved with substance abuse because of curiosity on the taste of using drugs.”*

Another theme that arises is a lack of religious knowledge and practice. Participants mentioned that shunning away from the spiritual practice such as obligatory prayer (for Muslims) could increase the risk factor towards negative behavior, Y-KL-7 mentioned:

*“The closer a person towards Allah, the less likely they will engage in negative behavior.”*

The belief held by participants on the importance of performing obligatory prayer is one of the protective factors that kept them from wrongdoings. Another factor for RFIF is to release pressure and stress, that makes the reason why some people choose to turn to drugs as a solution, Y-KT-6 mentioned:

*“My neighbor took drugs after having issues with his career and family, but in the end, he could not come out of it.”*

In this relation, Mukhara et al. (2018) reviewed preclinical literature on molecular mediators, highlighting the mechanisms of

stress, and the finding shows that stress can be a contributing risk factor in substance abuse. Then, lack of effective coping skills intending own problems is another theme that appeared in RFIF. Y-KL-7 said:

*“My friend’s brother was stressed out because of joblessness and had issues with her fiancé. At the end, he chose to take drugs.”*

It shows that some youth involved in drug abuse lack self-coping skills to avoid the risk of personal problems. This situation led to another theme of RFIF, which is seeking fun. Y-K-4 mentioned:

*“My brother takes drugs as a hobby to have fun. Now, he can’t stop from drugs.”*

Hence, the behavior of misusing drugs to seek enjoyment or for fun will eventually lead the user to become addicted and become dependent on drugs.

### **Risk Factors – External factors (RFEF).**

External risk factors in substance abuse originate from within the environment, objects, people, or places in contact with youth. These factors need to be controlled once identified. The following discussions explain the RFEF themes that correspond with negative peer influence, lack of parenting skills, negative family influence, negative neighborhood environment, and occupation types. Participants mentioned negative peer influence. A participant (Y-KL-6) responded:

*“Young teenagers engage with drugs because they just follow trends or friends.”*

Lack of parenting skills is another theme that emerged. Y-S-3 responded:

*“My cousins were involved with drugs due to having less control from family.”*

There probably has a relation when youth do not feel getting love and attention from parents (Y-S-1) stated:

*“That happened to my cousin when he spent more time with his friend compared to his family.”*

It is proven that a lack of parenting skills affects a youngster's life primarily when it involves activities outside the house. Another common RFEF for youth came from negative family influence, especially in families with a drug abuse history. Y-KL-8 said that:

*“I heard case where both parents living as drug dealer and influence their own children to use drug at young age.”*

A family with a drug abuse history can negatively influence their children's drug use. The following theme derived from RFEF is a negative neighborhood environment. A respondent (Y-S-5) stated that:

*“If the environment is not healthy, then it is easy for teens to engage in substance abuse.”*

Most participants agree that the environment plays a significant role in influencing an individual's thinking and behavior. Lastly, participants also mentioned the type of occupation, whereas laborious work influences drug usage. Y-J-9 stated:

*“My uncle takes drugs to do labor work. Without drugs, he cannot do his work.”*

Drugs proved to be harmful rather than beneficial when used for laborious relief. Individuals in construction occupations have a higher likelihood of marijuana use than workers in other industries (Prins et al., 2019; Rineer et al., 2018; Strickland et al., 2017).

## DISCUSSIONS

### Youths' Protective Factors — Internal and External Factors

All the above analyses reflected the categories, themes, and concepts that can be retrieved from the NVivo 12. Figure 1 represents the internal and external protective factors for youth in the hot spot area. Further discussions are elaborated on in the next section.

Ismail et al. (2017) stated that youth in hot spot areas or negative environments are vulnerable to negative behavior, especially substance abuse. At the same time, some youth survive that unhealthy environment. FGD themes shown in Figure 1 depicted internal protective factors (PFIF).

It is represented mostly by religious knowledge and practice. Forty-seven themes representing 81% of the overall 58 themes, appeared, followed by self-assertiveness. A significant act in religious knowledge and practice is an obligation to perform obligatory prayer. It is a pillar to remember Allah and seek guidance from Allah SWT. Prayer keeps a person away from wrongdoing, as stated in the following Al-Quran chapter of Al-Ankabut, “Recite

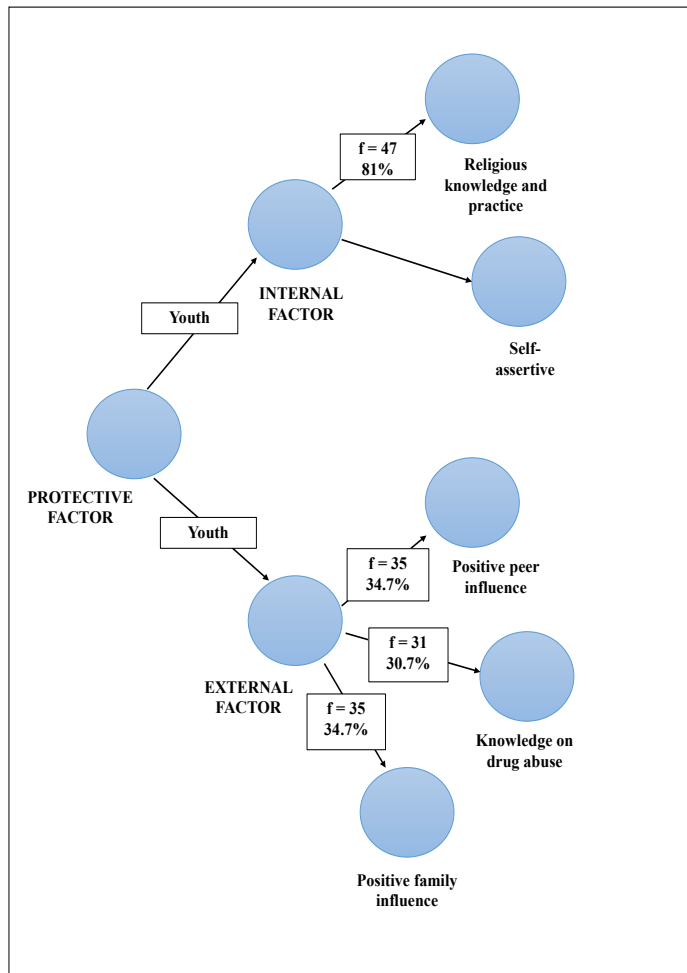


Figure 1. Youths' protective factors—internal and external factors

that which has been revealed to you of the Book and keep up prayer; surely prayer keeps one away from indecency and evil, and certainly, the remembrance of Allah is the greatest, and Allah knows what you do" (*Holy Qur'an*, 2006, 29:45).

Participants agree that the most essential in preventing oneself from substance abuse is consistently practicing religious knowledge gained, which will eventually develop a better personality and attitude. Dedicated prayer is essential as it renders

the soul (*ruh*) of the prayer (Yusoff et al., 2018) depicted as the true act of prayer. Wazir (2018) supported the idea that being religious can improve one's self-confidence, spirituality, and self-concept (Dalimunthe et al., 2021) and provide the strength of faith and the spiritual practices performed by an individual.

Figure 1 also shows that another PFIF is self-assertiveness, which represents eleven themes that are 19% of overall responses. Participants with self-assertiveness are

better able to face negative invitations from peers or family members and are successful in drug avoidance. Assertiveness defines the ability of an individual to express and defends ideas, interests, and feelings appropriately without anxiety. The assertive skill is essential in social situations, especially interpersonal interactions (Sangi et al., 2016). Messina (2020) stated that assertiveness helps one's right to defend and handle a situation. Participants agree that environment is one of the most contributing factors towards substance abuse behavior caused by family, friends, or neighborhood. Vojoodi et al. (2014) highlighted that those individuals with low self-assertiveness are more likely to be affected by high-risk situations. Sangi et al. (2016) found that individuals with a low level of assertive behaviors are likelier to have low-level self-control and engage in risky behaviors.

Figure 1 reveals protective factors external factors (PFEF) denote positive family influences, positive peer influence, and knowledge of drug abuse. Positive family influences represent 35 themes from 101, which denotes 34.7% overall. Williams et al. (2016) highlighted those efforts to prevent substance abuse started in early adolescence through school or family-based intervention. It could predict adolescent drug misuse (Newton-Howes & Boden, 2016). Thus, families are responsible for providing positive behavioral influences on their children. Similarly, positive peer influence has 35 themes, with 34.7%. Most participants are cautious in choosing a friend. NADA (2019) emphasized that 50.6% of drug addicts admitted that peer influence

is the main reason for their involvement with drug abuse activities. Knowledge of drug abuse has 31 themes which signify 30.7% overall. Participants' knowledge of the effect of substance abuse prevents them from engaging in that behavior. By living in the same neighborhood, they avoid the lives of drug addicts. In 2019 NADA conducted 3001 prevention programs in primary and secondary schools involving 26,154 students (NADA, 2019).

### **Youths' Risk Factor—Internal and External Factors**

Figure 2 represents the youth's internal and external risk factors in the hot spot area. Further discussions are elaborated in the next section.

As shown in Figure 2, internal risk factors (RFIF) epitomize the feeling of curiosity; 15 themes arise from 59, making 25.4% overall. Out of curiosity, youngsters are eager to try everything, including the harmful effect (Griffith & Jackman, 2019). It is supported by the NADA (2019) that the user's curiosity causes 3,457 substance abuse cases. Griffith and Jackman (2019) affirmed that curiosity is strongly associated with peer influence for indulgence in substance abuse. Lack of religious knowledge and practice are equally essential themes for RFIF, with 15 occurrences, 25.4%. It becomes a risk to youth since religious knowledge is guidance; lacking those might be uncertain and open to negative influences. In line with this, Aviyah and Farid (2014) suggested that the higher the level of one's religiosity, the less likely the adolescent is to engage in social problem behavior.

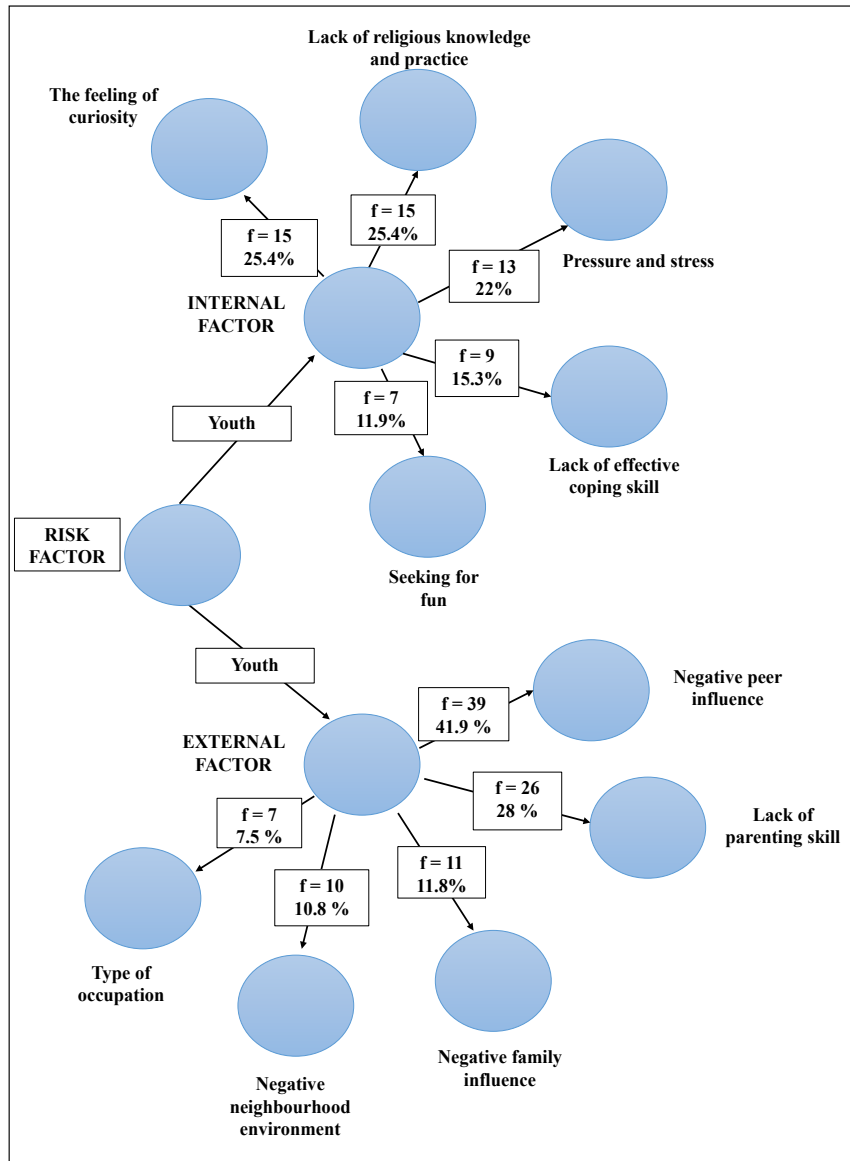


Figure 2. Youths' risk factors—internal and external factors

Youths might take drugs to release pressure and stress. This theme appears 13 times, with 22.0% overall. In Malaysia, substance abuse caused by stress increased over three consecutive years from 1,214 cases in 2017 to 1,953 in 2018 and 2,538 cases in 2019 (NADA, 2019). Several types

of stressors stimulate drug-taking behavior in preclinical models of drug relapse (Dong et al., 2017; Mantsch et al., 2016). Exposure to stress impacts brain structures and functions (United States Department of Health and Human Services Oral Health Coordinating Committee, 2016). Figure 2

shows that a lack of effective coping skills with nine occurrences brings 15.3%. Thus, youth coping skills lacking self-sustenance in avoiding harmful drug abuse led to negative behavior.

Lazarus and Folkman (1984) describe coping strategies as cognitive and behavioral responses to manage internal or external demands. Both adaptive and maladaptive deal with stressors or stressful situations (Carver & Connor-Smith, 2010; Skinner et al., 2003; Tobin et al., 1989). In certain circumstances, substance abuse is treated as a coping behavior to avoid stress and temporarily alleviate adverse effects (Bavojdan et al., 2011; Buckner et al., 2015; Hruska et al., 2011). The theme of seeking fun appeared seven times which is 11.9% overall. The thought that drugs can offer feelings of pleasure might become the reason drug users take them as a solution. The damage caused by drugs and the brain system is permanent (Muller & Kornhuber, 2017). The association of drugs with fun is incredibly significant since risk-taking is considered a source of amusement (Hunter, 2021). NADA (2019) stated that there are 3,457 cases of substance abuse in Malaysia caused by the feeling of seeking fun.

As shown in Figure 2, the first theme for risk factors external factors (RFEF) is negative peer influence; 39 times appeared, representing 41.9% overall. Adolescents and young adults join social groups with like-minded peers influenced by their friends (Beardslee et al., 2018). The strength of peer influence on substance abuse was most substantial during the teenage years and

subsequently dissipated through the mid-20s (Cleveland et al., 2008, 2012; Ferguson & Meehan, 2011). Lack of parenting skills appeared 26 times, representing 28% of responses. Adolescents' substance abuse is positively related to parental engagement since parents serve as role models to their children (Asiseh et al., 2017). Meanwhile, Smyth and Darmody (2021) emphasized maternal monitoring of adolescent activities related to less antisocial behavior, truancy, and externalizing difficulties. Asiseh et al. (2017) supported the idea that parental monitoring is associated with reduced adolescent engagement in substance abuse.

Negative family influence appeared eleven times, representing 11.8% of the response. Studies on the prevalence of risk factors for substance abuse suggest that youth with a family history of substance abuse are more likely to use drugs (Muthoka & Mwenje, 2020). Ten themes denote a hostile neighborhood environment with 10.8% responses. Prior studies identified that exposure to an impoverished neighborhood is often characterized by a high crime rate (Lardier et al., 2018). Social disorganization includes community violence, abandoned properties, and drug selling or dealing represent a fundamental construct in predicting substance usage (White et al., 2013).

Finally, RFEF types of occupation have seven responses bringing 7.5% inclusive. Sharma (2018) stated that drugs are referred to as ergogenic aid to improve physical work performance. Recent studies suggest that construction workers may be at an

exceptionally high risk of substance abuse (Ompada et al., 2019). Bunn et al. (2014) support this opinion, whereas construction workers may use pain-relieving substances such as opioids and marijuana due to their labor-intensive nature. Other reasons are that they must deal with fatigue, productivity-based payments, and other job-related stressors (Ajslev et al., 2015).

This study discovers that protective factors that protect youth from drugs originated from the positive spiritual values possessed. Those values are religious knowledge and practice, self-assertiveness within themselves, and other external factors that include family, peers, and knowledge of the harmfulness of drugs. El Kazdoun et al. (2018) mentioned that individuals with a powerful desire to maintain their health are more likely to be protected from involvement in drug abuse. The risk they face might come from the internal weaknesses of the feeling of curiosity, lack of religious knowledge and practice, the release of pressure and stress, lack of effective coping skills, and seeking fun. The negative environment might come from peer influence, lack of love and attention from a parent, negative family influence, and negative neighborhood environment and occupation. This study indicates the essential psychospiritual values of religious belief and practice and the internal strength of youth that are supposed to be embedded within. It needs support from family and peers, and knowledge and intelligent decision play their role during their youth.

In parallel to the protection and risk factors theories by Hawkins et al. (1992) and Hogan et al. (2003), both protection and risk factors in this study are strongly related to peers, family, neighborhood, and environment. The additional values recognized from this study for the youth to stay clear from drugs are the psychospiritual religious belief and practice combined with self-assertiveness and knowledge of drugs' harmfulness. The main counter-risk factor found in this study that contributes to lessening the risk is the capabilities of the youth to internalize religious values and consistently perform religious practices. Al-Quran, Chapter al-Baqarah, verse 277 states, "Truly those who believe, and do deeds of righteousness, and perform As-Salat, and give zakat, they will have their reward with their lord. On them shall be no fear, nor shall they grieve" (*Holy Qur'an*, 2006, 2:277).

This verse reminds Muslims that performing prayer, righteous deeds, and obligatory practices are crucial in elevating a person's inner strength. Linawati and Desiningrum (2017) accentuated that individuals who succeed in internalizing the religiosity within their soul can manage self-control towards their behavior. Poor religious knowledge is one factor in drug abuse that influences individuals trapped in the same situation (Amat et al., 2020). Hence, the spiritual value of religiosity constructively influences youth's life. Family, peers, neighborhood, and environment become significant in nurturing adolescents' attitudes and skills in confronting high-risk situations.

A drug prevention program should be conducted continuously during the school sessions and after school awareness. Prevention programs could shape religious and positive values, personalities, and attitudes and give adequate knowledge to younger teenagers vulnerable to high-risk situations. The role of parents and family members is essential in ensuring youth receive good knowledge in facing high-risk neighborhoods or communities. Parental monitoring is essential in preventing social problems (Davila et al., 2017). Knowledge should be inserted at the early stage of adolescence to build their understanding. Thus, parents and caregivers should consistently ensure the knowledge of where information reaches children on the danger and harms of drugs in the early stage of their life.

## CONCLUSION

These findings show that youth living in the hot spot possess internal and external protective factors. The youths who managed to escape/survive from drug influences are due to religious knowledge and practice followed by self-assertiveness, positive family influences, positive peer influence, and knowledge of drug abuse. Adolescence vulnerability might be caused by early childhood exposure to high-risk situations. It worsens when the youth have less knowledge and skill in confronting those situations.

The feeling of curiosity, lack of religious knowledge and practice, the release of pressure and stress, lack of effective

coping skills, seeking fun, negative peer influence, lack of parenting skills, negative family influence, negative neighborhood environment, and occupation become reasons that trap youths into abusing harmful drugs. Psychospiritual knowledge and practices appear as a consistent theme, thus recommended as the main content in the drug prevention module. A big challenge is to develop a systematic strategy for decreasing substance abuse behavior.

The preventive attitude should be nurtured and developed since childhood. Correspondingly, self-assertiveness helps youth refuse negative influences. Prevention programs are pertinent to youth, family, peers, the environment, and society. Experts in this field can contribute to designing, implementing, and evaluating drug prevention programs for youth. Further research can focus on an impactful prevention program for youth at school and school leavers. Research expansion can explore quantitative or mixed-method experimentation, especially on the psychometric analysis of drug prevention programs to benefit the youth and the nation.

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## **Does Women's Empowerment Influence Multidimensional Poverty? Empirical Insight from Rural Odisha of India**

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### **ABSTRACT**

The prominent role played by women's empowerment and multidimensional poverty reduction in the development process is justified by including Goal-1 and Goal-5 under the 2030 agenda of UNDP's Sustainable Development Goals. This study examines the nexus between women's empowerment and multidimensional poverty in rural areas of the Jagatsinghpur district of Odisha. The Alkire-Foster method is used to construct Women Empowerment Index and Multidimensional Poverty Index. Education, health, economic, and standard of living dimensions construct MPI and economic, social, political, and domestic empowerment dimensions for WEI. This study observed that more than two-thirds of women are deprived of asset ownership and employment, and more than half of nutrition, access to improved sanitation, and clean energy for cooking. The results of the OLS model revealed the positive impact of women's empowerment with occupation, age, and education in reducing multidimensional poverty. Based on the findings, the study envisages appropriate policy intervention in enhancing the educational level and generation of self-employment opportunities in empowering women and reducing multidimensional poverty.

**Keywords:** Alkire-Foster methodology, multidimensional poverty, Odisha, OLS regression, women empowerment

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### **INTRODUCTION**

Poverty is widely recognised as a multidimensional phenomenon, reflected through many deprivations faced by the poor in their daily lives irrespective of their income levels, such as lack of basic education, poor health and nutrition, bad housing conditions, lack of improved sanitation and clean water, poor quality of work, disempowerment,

violence, social exclusion, and much more ("Policy—A multidimensional approach," n.d.). Sustainable Development Goals (SDGs), the 2030 Agenda of the United Nations Development Programme (UNDP), is designed to end poverty, hunger, and discrimination against women and girls by using clean water, improved sanitation, and clean energy by all.

Empowerment, an expansion of freedom of choice and control over resources (Mason & King, 2001), is essential for women to strengthen their well-being through realising their identity, power, and position in all aspects of life (Allahdadi, 2011; Sahoo, 2013). Goal-5 of the SDGs includes gender equality and women empowerment as a precondition for reducing poverty, promoting sustainable development, and building good governance (Nandi, 2021). Gender equality and women's empowerment in education, health, economic, social, and political domain plays a significant role in achieving sustainable and inclusive growth through the creation of human capital, boosting labour productivity, providing access to economic activities, and ameliorating poverty (Anggraeni et al., 2022; Jamil et al., 2022; Korosteleva & Stępień-Baig, 2020; P. K. Mishra, Mishra, & Sarangi, 2020; Sohail, 2014; Wei et al., 2021).

Odisha, an eastern Indian state, is sadly known to the world as a land of poverty despite its rich heritage, culture, and natural resources (Nayak, 2018). As per the National Multidimensional Poverty Index Baseline Report of India (National Institution for Transforming India [NITI

Aayog], 2021a), Odisha stands at the ninth position from the top among 28 Indian states in poverty with 29.35% of the population being multidimensionally poor, while in rural and urban Odisha it was estimated at 32.66% and 12.33%, respectively. Although the government implements numerous development programmes in the state to eradicate poverty and hunger, more than 70% of the population is still deprived of clean cooking fuel (80.94%) and improved sanitation (70.43%). More than half are deprived of better housing facilities (55.81%), more than one-third are deprived of nutrition (37.26%), and about 20% of the population are deprived of clean drinking water and asset ownership. Less deprivation is observed in respect of population having bank account (10.94%), child school attendance (4.95%), and child mortality (2.23%). The report also exhibit acuteness of rural multidimensional poverty in comparison to urban regions of the state.

The picture of gender equality and women's empowerment in the state, as reflected through the National Family Health Survey-5, 2019–2021 (Government of India), provides mixed evidence. The performance of women is commendable in several indicators of empowerment, such as having a personal bank account (86.5%), knowledge of microcredit programme (74.4%), the decision taken by women alone or jointly with their husbands on how to use self-earning (91.6%) and their husbands earning (81.0%). The dark side of women's empowerment in the state is observed in education, health, and economic

dimensions. About 90% of the women are deprived of reading the newspaper at least once a week, more than 70% of the women are unemployed as well as deprived of never using the internet, and more than half of the women are not covered under any health insurance scheme, ownership of the house and land property, and about half of the women deprived of five years of completed schooling. The gender disparity is more pronounced (greater than 25%) in respect of unemployment, people suffering from anaemia in the age group of 15-49, and owning a house alone or jointly in the age group of 15-49 (International Institute for Population Sciences & International Classification of Functioning, Disability and Health, 2021).

The existence of high gender discrimination along with multidimensional poverty in Odisha is evidenced through 2020–2021 SDG scores (NITI Aayog, 2021b). The state even failed to achieve the tag of the ‘performer’ (SDG score in the range of 50 to 64) and continues to remain in the ‘aspirant’ category (SDG score in the range of 0 to 49) in respect of SDG1-No Poverty (41), SDG2-Zero Hunger (42), SDG4-Quality Education (45), SDG5-Gender Equality (46), and SDG8-Decent Work (48; NITI Aayog, n.d.).

Against this backdrop, this piece of research work attempts to (1) assess the magnitude of women empowerment and multidimensional poverty in the rural areas of Odisha, (2) examine the impact of occupational structure, age, social group and education on women's

empowerment, and (3) examine the impact of occupational structure, age, social group, education, and women's empowerment on multidimensional poverty.

This study, using Alkire and Foster (2011) method and OLS based multiple regression model, evinced that more than two-thirds of the women in the study area are deprived of asset ownership and employment, and more than half are deprived of in nutrition, access to improved sanitation, and access to clean energy for cooking. The deprivation gap between multidimensionally poor and non-poor women concentrates on five indicators; i.e., completed years of schooling, nutritional status, access to improved sanitation, clean energy for cooking, and employment. The study also reveals the significant impact of the levels of education, age, occupational structure, and higher level of women empowerment on multidimensional poverty among women. This study is the first of its kind in the context of women's empowerment and multidimensional poverty in the Jagatsinghpur district of Odisha, and thus, the novelty of the study is justified.

## LITERATURE REVIEW

Women empowerment and gender equality are preconditions for sustainable development, economic growth, and poverty reduction (Thandar et al., 2019). The “Gender Efficiency Approach” advocates that women's access to education, jobs, credits, and assets act as a catalyst in accelerating society's development

and growth significantly, and therefore, gender equality is portrayed as “Smart Economics” (Robles, 2020). Although rural women contribute significantly to economies, whether in businesses or on farms, as entrepreneurs or employees, or by doing unpaid care work at home, they are still disproportionately affected by poverty, discrimination, and exploitation (“Economic empowerment”, n.d.). Despite most countries across the globe approaching towards achieving gender equality by increasing the proportion of school-going girls, decreasing girl’s early marriage, and increasing women’s participation in parliament, still, many challenges remain to persist, such as the presence of discriminatory laws and social norms, underrepresentation of women at all levels of political leadership, and physical or sexual violence by their intimate partner (United Nations, n.d.).

### **Dimensions of Women’s Empowerment**

No household, society, or country can move forward without empowering its women (Express News Service, 2022). Gender discrimination in education, health, and employment hinders women from attaining a decent living standard, showing their incapability to control the economy’s resources (Madan & Gill, 2011). Empowerment provides rights to women to enhance their socioeconomic, political, and legal strength and subsequently helps in achieving gender equality in the field of education and employment, and provides

ample opportunities to live with respect, dignity, and self-worth (Kharel, 2021). Women’s empowerment is viewed as a multidimensional phenomenon that incorporates several dimensions, such as education, economic, social, familial, political, and psychological (Bayissa et al., 2018; Datta & Sahu, 2021, 2022; Ghosh, 2022; Khan et al., 2022; Mastoi et al., 2021; U. Riaz & Chaudhry, 2021; Solomon & Sharma, 2021; A. K. Tripathy, 2021; Vede, 2021). Empowered women support their families by raising their earnings, uplifting living standards, and fulfilling their needs, such as food, clothing, education, and good health (Sarwar & Chaudhury, 2021). They are also vigilant in health aspects to reduce child stunting, wasting, and underweight rates through their social independence and decision-making power (Onah, 2021). Educational empowerment upsurges women’s knowledge, skill, and self-confidence, provides better employment opportunities in the labour market, enhances earning capacity, and helps in participating in the development process (S. Riaz & Pervaiz, 2018; Abbas et al., 2021; Kalakoti, 2021; Sarfraz et al., 2021; A. K. Tripathy, 2021).

Women’s economic empowerment is critical for improving their self-confidence, self-image, and basic survival needs (Mohapatra, 2017). It enhances women’s access and control over economic resources, such as income, property, and financial assets like saving and investment (Datta & Sahu, 2021; Khan et al., 2022), and also promotes next-generation human

capital (King et al., 2008). Psychological empowerment enables women to participate in household decision-making processes, such as children's marriage, family savings, asset purchases, and visits to the maternal house (Datta & Sahu, 2021).

Social empowerment enhances women's autonomy and self-confidence to develop social relationships (Khan et al., 2022) and promotes gender equality by providing equal opportunities, rights, and obligations to women (A. K. Tripathy, 2021). Political empowerment enhances women's awareness of the voting practice, participation in the *panchayat*, participation in election campaigns, choice of candidate, and contest in the elections (Datta & Sahu, 2021; Ghosh, 2022; Khan et al., 2022; A. K. Tripathy, 2021). Women's participation in governance is also highly significant for navigating the socioeconomic disadvantage section of society to the mainstream (Divakar & Singh, 2022).

### Dimensions of Gendered Poverty

Poverty is the pronounced deprivation of well-being in terms of education, health, housing, asset ownership (Biswal et al., 2020; P. K. Mishra, Kumar, et al., 2020; S. K. Mishra et al., 2021; Wei et al., 2021), employment (Biswal et al., 2020; P. K. Mishra, Kumar, et al., 2020), empowerment (Biswal et al., 2020; S. K. Mishra et al., 2021), social security (P. K. Mishra, Kumar, et al., 2020), and social relationship (Biswal et al., 2020; S. K. Mishra et al., 2021). Low educational attainment decreases women's capabilities to get better employment

opportunities and is accountable for deteriorating their socioeconomic living conditions (Ajala, 2016; Fabiyi & Akande, 2015). Economically deprived women fail to meet their household expenses for education, health, and other daily needs and survive under low living standards (Wrigley-Asante, 2008). Deprivation in good health restricts women from participating in different income-generating activities and creates an obstacle to caring for their family members and children's education (Delisle, 2008; Biswal et al., 2020). Deprivation in using clean cooking fuel and solid dirty fuel, such as cow dung, firewood, and straws, creates many health hazards for women and increases energy poverty (Abbas et al., 2021).

Education plays a vital role in enhancing the knowledge and skills of women, which further allows them to participate in different socioeconomic and political activities (Biswal et al., 2020). Educated women reduce their economic dependence by engaging themselves in different income-earning activities and subsequently help reduce poverty (Wei et al., 2021). The standard of living reflects the quality of life of the individuals. Acquiring different physical assets, such as mobile phones, television, refrigerator, fan, and motorcycle, provides mental peace, makes life more comfortable, and subsequently helps reduce multidimensional poverty (Wei et al., 2021).

Multidimensional poverty portrays the dominance of male-headed over female-headed households (Montoya & Teixeira, 2017). Female-headed households are more

deprived in consumption, health, education, and empowerment aspects of poverty (Kyaw & Routray, 2006). In the study relating to the feminisation of multidimensional poverty in rural Odisha, Biswal et al. (2020) observed that females are more deprived than males due to their low level of education and low freedom in taking household decisions and about half of the women are deprived of education, nutrition, and improved sanitation, three-fourths of the women were deprived of using clean cooking fuel, 95% of women were deprived in asset ownership, and almost all women were deprived in community-level activities.

Siddique and Nosheen (2021), in their study on multidimensional poverty among female-headed households, found that more than 80% of the household deprived of access to clean and safe water, and more than two-thirds of the household deprived of improved sanitation and asset ownership. In a cross-country analysis in Sub-Saharan Africa, Batana (2013) observed that women are highly deprived of education, followed by empowerment. In the study on the gendered nature of multidimensional poverty in China, Yichao and Di (2017) found that women are significantly more vulnerable than men in primary education, health, and nutrition.

In the study relating to multidimensional poverty among women in rural areas of South and Southeast Asia, Abbas et al. (2021) found that most women falling under the multidimensionally poor category were deprived of using clean energy for cooking, that compels them to use dirty

cooking fuels, which emits poisonous and harmful substances and consequently accountable for their health degradation. Bhattacharjee and Goswami (2021), in their study on multidimensional poverty among female domestic workers' households in the district of South 24 Parganas of West Bengal in India, found that about half of the households are multidimensionally poor due to their irregular income and unstable nature of work. Omotoso et al. (2022), in a study on multidimensional poverty in South Africa, found that most women fall into poverty due to deprivation in employment and health indicators.

### **Women's Empowerment and Gendered Poverty**

Women are the drivers and beneficiaries of poverty eradication (Puri, 2017). They engaged in different self-employment activities, such as street vending and petty shopkeepers (Arora & Arora, 2012), rice vending, bamboo work, rope making and weaving (Mohanty et al., 2013), food processing, grocery, and handicrafts (U. Tripathy, 2015), poultry (Abebe & Tesfaye, 2017), and livestock (Alabi et al., 2019) can generate more income and helps in eradicating poverty. Provision of skill-enhanced training facilities to women engaged in different agricultural and non-agricultural income-generating activities in rural areas, such as vegetable production, nursery establishment, animal husbandry, poultry rearing, cleaning of seeds, and crops harvesting, play a vital role in women's empowerment and poverty reduction (P. Jena et al., 2021).

Self-help groups (SHGs) act as a panacea for women's empowerment and poverty reduction by providing economic independence and security to women by increasing their income level and assets (Arif, 2014; Galab & Rao, 2003; Illangakoon et al., 2021; S. Jena & Patro, 2016; Onyuma & Shem, 2005; Ravindra & Tiwari, 2016; Widiyanti et al., 201; Gu & Nie, 2021; U. Riaz & Chaudhry, 2021). The provision of microfinance increases women's capability to remove income poverty, basic needs poverty, capacity poverty, knowledge poverty, and information poverty and helps enhance the welfare of the family, community, and society (Mastoi et al., 2021). Adnan and Amri (2021) observed a unidirectional relationship between women empowerment and poverty reduction in a study in Western Indonesia. Wei et al. (2021) observed a significant contribution of women's empowerment on poverty reduction, i.e., a 1% increase in empowerment score leads to a 1.4% increase in per capita income and a 0.101% fall in multidimensional poverty. A similar observation was made by Ntenkeh and Fonchamnyo (2021) in Cameroon, where a 1% increase in women empowerment leads to a 0.176% fall in poverty.

The literature surveyed echoes the nature of gender disparity reflected through the higher deprivation of women in nutrition, health, and education. Further, women confront greater difficulties in the labour market that result in low earnings, a low living standard, and increased poverty. Women's empowerment positively contributes to

increasing per capita income and reducing income and multidimensional poverty. The study on women's empowerment and multidimensional poverty in rural areas is highly significant.

## METHODS

Jagatsinghpur district is purposively taken as the sample district to study the status of women empowerment and multidimensional poverty and their interrelationship. The block wise map of Jagatsinghpur district of Odisha is given in Figure 1.

This district, although recognised as the second topmost non-poor district among 30 districts of the state in terms of multidimensional poverty (11.83% multidimensionally poor), people are still deprived in many indicators of multidimensional poverty, such as using improved sanitation (72.92%), improved housing facilities (54.77%), clean cooking fuel (49.86%), electricity connection (20.87%), nutrition (20.19%), and maternal healthcare (18.00%; NITI Aayog, 2021a). Even though the district's performance in most indicators of multidimensional poverty is better than the state, still the position of the district is worse in using improved sanitation, electricity connection to the household, and child and adolescent mortality rate (NITI Aayog, 2021a).

A multi-stage random sampling technique is used in the present study to collect information from each female member who belongs to the sample household in the age group between 15 and 64 from January to March 2021. In the first

stage, 32 villages are randomly selected using SPSS-23, four each from eight blocks under the Jagatsinghpur district. Rao-soft online sample size calculator is used to determine 370 sample households out of

8591, with a 5% margin of error and 95% confidence level. From each sample village, 4.31% of household is selected using a simple random sampling technique in the second stage (Table 1).

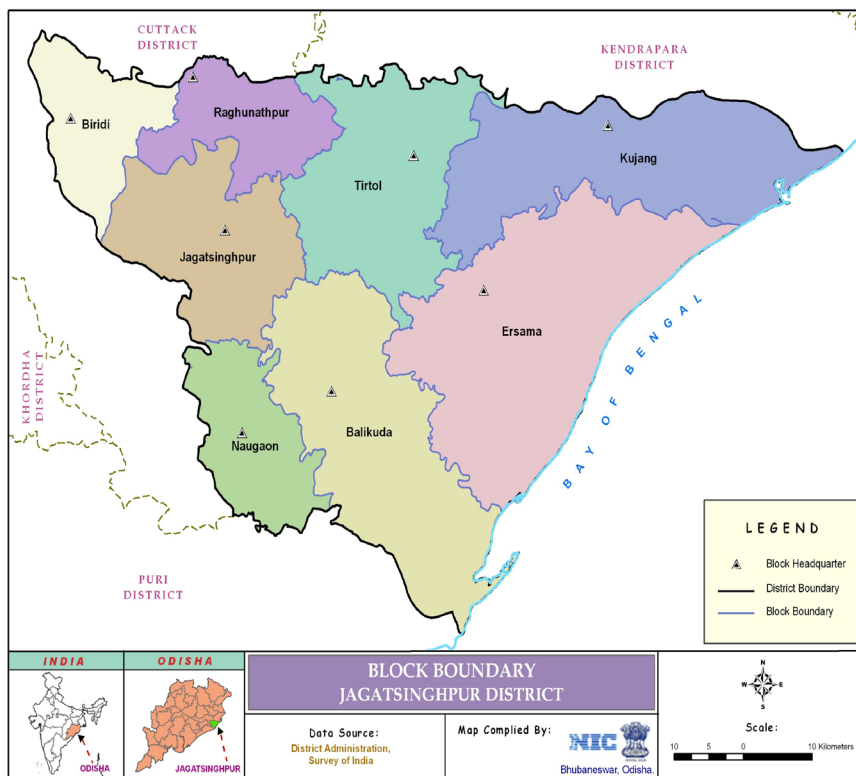


Figure 1: Block wise map of Jagatsinghpur district of Odisha

Table 1

*Village-wise number of sample households*

Name of the block	Name of the village	Total household size	Sample household size
Balikuda	Nagapur	465	20
	Khaleri	136	6
	Kalio	346	15
	Bhoda	220	9

Table 1 (Continue)

Name of the block	Name of the village	Total household size	Sample household size
Biridi	Ranipada	436	19
	Balia	321	14
	Chandapur	450	19
	Anakhia	22	1
Erasama	Siha	240	10
	Arada	94	4
	Bartol	112	5
	Botigaon	84	4
Jagatsingh-pur	Baruna	50	2
	Mahakale-swar	115	5
	Itapada	54	2
	Palli	131	6
Kujanga	Zillanasi	323	14
	Hasina	509	22
	Arakhia	303	13
	Samagol	464	20
Naugaon	Abadala-pur	108	5
	Erada	335	14
	Ghoda-nsa	351	15
	Tentoi	472	20
Raghunath-pur	Barti	161	7
	Tarapur	274	12
	Patenigaon	162	7
	Jaisol	227	10
Tirtol	Bishan-pur	573	25
	Manapur	290	12
	Nuagaon	270	12
	Kolta	493	21

Source: Authors' estimation from primary data

Alkire-Foster methodology (Alkire & Foster, 2011) is used in the study to construct MPI and WEI with appropriate modification. Four dimensions comprising ten indicators are considered for constructing MPI, and four dimensions comprising eight indicators for constructing WEI. The equal weightage is assigned to all dimensions and all indicators under each dimension for computing MPI and WEI (Table 2).

Table 2

*MPI and WEI (dimensions, indicators, and weights)*

Index	Dimension	Weight	Indicator	Symbol	Weight
MPI	Education	1/4	Completed years of schooling	EDN	1/4
	Health	1/4	Nutritional status	NUT	1/8
			Vaccination	VAC	1/8
	Economic	1/4	Employment	EMP	1/4
			Access to electricity	ELCT	1/24
			Access to safe drinking water	WAT	1/24
	Living Standard	1/4	Access to clean energy for cooking	ENR	1/24
			Housing condition	HOU	1/24
			Access to improved sanitation	SAN	1/24
			Asset ownership	ASET	1/24
WEI	Economic empowerment	1/4	Individual land ownership	LAN	1/8
			Possession of individual bank a/c	BANK	1/8
			Participation in community-level activities	PARCOM	1/12
	Social empowerment	1/4	Organization of community-level activities	ORGCOR	1/12
			Autonomy in changing things at community-level	AUTCOM	1/12
	Political Empowerment	1/4	Participation in parliament, legislative assembly, or other political institutions	POL	1/4
	Domestic empowerment	1/4	Autonomy in healthcare decisions	AUTHTH	1/8
			Autonomy to prevent domestic crime/violence	AUTPRVCR	1/8

*Source:* Authors' estimation from primary data based on Alkire and Foster's (2011) approach

Individual deprivation score is computed using the equation  $C_i = w_1h_1 + w_2h_2 + \dots + w_ih_i$ , where  $C_i$  indicates the individual index value for measuring multidimensional poverty,  $w_i$  is the weight assigned to  $i^{\text{th}}$  indicator, and  $h_i$  indicates the deprivation in the component indicator. If an individual is deprived in the  $i^{\text{th}}$  indicator, then  $h_i = 1$  and for non-deprived,  $h_i = 0$ . Individual deprivation score for measuring multidimensional poverty varies between '0' and '1', where '0' indicates non-deprivation and '1' indicates complete deprivation in all the indicators under consideration.

Similarly, the women empowerment score is computed using the equation  $C_j = w_1h_1 + w_2h_2 + \dots + w_jh_j$ , where  $C_j$  indicates the individual index value for measuring women empowerment,  $w_j$  is the weight assigned to  $j^{\text{th}}$  indicator, and  $h_j$  indicates the disempowerment in the component indicator. If an individual is empowered in the  $j^{\text{th}}$  indicator, then  $h_j = 1$  and for disempowered,  $h_j = 0$ . Individual deprivation score for measuring women empowerment varies between '0' and '1', where '0' indicates fully disempowered and '1' indicates fully empowered in all the indicators under consideration.

An individual is deprived in the education dimension of multidimensional poverty if she has not completed a minimum of six years of schooling; in the health dimension if (1) her BMI is less than 18.5 (underweight) and greater than or equal to 23 (overweight and obesity), and (2) not vaccinated for any type of contagious diseases; in the economic dimension if not employed; in the standard of living dimension if she has no access to electricity,

improved sanitation facilities, clean drinking water, better housing condition, and not owned motor vehicle.

An individual is disempowered in the economic dimension of women empowerment if she has not possessed any hector of agricultural/residential land and has no bank account; in the social dimension, if she has no autonomy to change things at the community level and fails to organise or participate in different community-level activities; in the political dimension if she has not elected to any type of political institutions starting from village to national level; domestically disempowered if she fails to control domestic violence and unable to take any type of healthcare decision at the household level.

A cut-off is used to identify whether an individual is multidimensionally poor or not. In this study, an individual with an MPI score below 20% is treated as multidimensionally non-poor (MDNP); between 20% and 33.33% as vulnerable to multidimensionally poor (VMDP); between 33.33% and 50% as multidimensionally poor (MDP); and 50% or higher as severely multidimensionally poor (SMDP).

Similarly, a cut-off level is also used to identify different categories of women's empowerment. Since no accepted threshold level is found in the literature, the same is estimated considering the WEI is normally distributed as tested through one sample Kolmogorov-Smirnov Test (Levin et al., 2017) with test statistics 0.301 (at 0.000 significance level). The cut-off points for a probability of 33.33% and 66.67% are estimated at 0.2239 and 0.3409, respectively.

Thus, an individual with a WEI score of '0' is treated as "Zero Empowerment", between '0' and '0.2239' is treated as "Low Empowerment", between '0.2239' and '0.3409' as "Moderate Empowerment", and more than '0.3409' as "High Empowerment".

The Chi-square Test of independence is used to study whether different categories of multidimensional poverty or women's empowerment are independent of occupation, age, social group, and education.

The ordinary Least Square (OLS) based multiple regression model is used in the study to analyse the impact of different socioeconomic and demographic variables on women's empowerment and multidimensional poverty. Since the dependent variables, i.e., WEI and MPI, are continuous, following the works of distinct researchers, such as Ogutu and Qaim (2019), Onoja et al. (2022), Sulaimon (2020, 2022), and Wei et al. (2021), this study also applied OLS based multiple regression model for impact analysis of women's empowerment and multidimensional poverty. This study assesses the nature and magnitude of the relationship between (1) WEI and different categories of occupation (OCC), age (AGE), social group (SOC), and education (EDU),

and (2) MPI and different categories of occupation (OCC), age (AGE), social group (SOC), education (EDU) and women empowerment (WE). The specified two econometric models are as follows:

$$WEI = \alpha_1 + \beta_1 OCC + \beta_2 AGE + \beta_3 SOC + \beta_4 EDU + \varepsilon_i \quad (1)$$

$$MPI = \alpha_2 + \beta_5 OCC + \beta_6 AGE + \beta_7 SOC + \beta_8 EDU + \beta_9 WE + \varepsilon_j \quad (2)$$

where,  $\alpha_1$  and  $\alpha_2$  are constant,  $\beta_1$  to  $\beta_9$  represent coefficients of independent variables, and  $\varepsilon_i$  and  $\varepsilon_j$  are the error terms.

## RESULTS AND DISCUSSIONS

### Sample Characteristics

The study is based on responses from 583 women from 370 sample households aged 15 to 64. Nearly 60% of women are in the age group 35–54. Only 5% of women under study are illiterates. 57% of women have educational qualifications up to the secondary level (Table 3). Women with graduation and above constitute 20.41% of total women. Women belonging to SEBC dominate the social group category. Under the occupational category, 78.39% of the sample respondents are unemployed, and 14.75% are self-employed.

Table 3  
*Sample profile*

	Item	Female respondent (number)	Percentage (%)
Occupation	No work	457	78.39
	Daily wage earner	21	3.60
	Private job	5	0.86
	Government job	14	2.40
	Self-employed	86	14.75

Table 3 (Continue)

	Item	Female respondent (number)	Percentage (%)
Age (years old)	15–24	68	11.66
	25–34	89	15.27
	35–44	177	30.36
	45–54	171	29.33
	55–64	78	13.38
Social group	OBC	114	19.55
	SC	67	11.49
	SEBC	360	61.75
	UR	42	7.20
Education	Illiterate	29	4.97
	Lower primary	107	18.35
	Upper primary	106	18.18
	Secondary	119	20.41
	Higher secondary	103	17.67
	Graduation & above	119	20.41

Source: Authors' estimation from primary data

### Women Empowerment

A close look at the women empowerment in the study area reveals that the percentage of women observed in zero, low, moderate, and high empowerment groups are 5.66, 17.32, 36.36, and 40.65, respectively. More than 93% of women lack social and political empowerment, and above 87% face economic disempowerment, particularly in land ownership (Table 4). Even more than 97% of women in the high empowerment group are disempowered in organising community-level activities, autonomy in changing things at the community level, and participation in Parliament, Legislative

Assembly, or other political institutions. Lower educational achievements of women, the patriarchal nature of the rural social structure, and pervasive poverty restrict women's mobility in the public space and their social and political participation.

The study observed a lower level of patriarchal forms of violence women face, where only 1 out of 4 women in the age group 15 to 64 years are disempowered to prevent crime/violence in the household. However, their domestic empowerment does not help in making healthcare decisions on the domestic front.

Table 4

*Indicator-wise women's empowerment and disempowerment*

Dimension	Indicators	Not empowered (%)	Empowered (%)
Economic empowerment	LAN	87.65	12.35
	BANK	21.27	78.73
	PARCOM	99.66	0.34
Social empowerment	ORGCOM	93.83	6.17
	AUTCOM	98.97	1.03
Political empowerment	POL	99.83	0.17
Domestic empowerment	AUTHTH	45.80	54.20
	AUTPRVCR	25.39	74.61

*Source:* Authors' estimation from primary data

The status of women's empowerment is studied across occupation, age, social group, and educational level of women (Table 5). The study, using the Pearson chi-square test observed a significant association of women empowerment with occupation, age, and educational level of women ( $p$ -value < 0.05), and no significant association with the social group ( $p$ -value > 0.05). About 97% of zero empowered women are non-workers. Women in private or government jobs are either moderately or highly empowered.

Table 5

*Women empowerment across occupation, age, social group and education*

Item	Empowered women (%)				Pearson chi-square ( $p$ -value)
	Zero	Low	Moderate	High	
Occupation	Unemployed	96.97	82.18	75.00	77.22
	Daily wage earner	3.03	3.96	4.25	2.95
	Private job	0.00	0.00	0.94	1.27
	Government job	0.00	0.00	0.47	5.49
	Self-employed	0.00	13.86	19.34	13.08
Age (years old)	15–24	51.52	24.75	8.96	2.95
	25–34	36.36	17.82	15.09	11.39
	35–44	6.06	24.75	28.30	37.97
	45–54	6.06	17.82	34.91	32.49
	55–64	0.00	14.85	12.74	15.19

Table 5 (Continue)

Item		Empowered women (%)				Pearson chi-square ( <i>p</i> -value)
		Zero	Low	Moderate	High	
Social group	OBC	15.15	20.79	24.06	15.61	10.478 (0.313)
	SC	21.21	11.88	11.79	9.70	
	SEBC	54.55	59.41	57.55	67.51	
	UR	9.09	7.92	6.60	7.17	
Education	Illiterate	3.03	7.92	6.60	2.53	47.073* (0.000)
	LP	12.12	18.81	22.17	15.61	
	UP	0.00	11.88	23.11	18.99	
	Sec.	27.27	15.84	24.53	17.72	
	High Sec.	27.27	21.78	13.21	18.57	
	Grad. & above	30.30	23.76	10.38	26.58	

Note. \*Significance at 1% level of probability

Source: Authors' estimation from primary data

Zero empowered women are concentrated in ages 15 to 34 (87.88%), whereas moderate and high empowerment concentration is observed in the age group between 35 and 54 (more than 63%). More than 84% of zero-empowered women have at least secondary-level educational qualifications, whereas the figure is about 60% for low and highly-empowered women.

OLS-based dummy variable multiple regression model is applied to assess the impact of occupation, age, and level of education on women's empowerment (Table 6). The social group is opted out of the regression model since the chi-square test disproves an association between women empowerment and social group. The reference groups consist of 'Age (15–24)' under variable 'Age', 'Unemployed' under variable 'Occupation', and 'Illiterate'

under variable 'Education'. A statistically significant 'F' ratio shows a good model fit. The three categorical variables combined explain about 28% change in women's empowerment. The study witnessed the positive contribution of age and educational level in enhancing women's empowerment. Women become highly empowered with an increase in their age and educational level. Only the impact of government jobs on women's empowerment is found statistically significant, where the WEI increases by 0.142 for the women in a government job compared to unemployed women.

The study observed increased women empowerment with the increase in the age group. About 38.2% of women aged 15–24 enjoy autonomy in health care decisions, which increases to 62.7% for those aged 35–44. Similarly, 39.7% of women in the

age group 15–24 have the autonomy to prevent crime/violence in the household, which increases with the increase in age group and reaches 82.1% for the age group 55–64. It is also observed that ownership of land increases with an increase in age—from 3.4% in the age group 15–24 to 24.4% in

the age group 55–64. Women's autonomy in health care decisions increases with the increase in educational level, i.e., 44.8% for illiterate women and 71.4% for women with educational qualifications of graduation and above.

Table 6

*Impact of socioeconomic and demographic variables on women's empowerment*

Variables	Coefficient	Std. error	t-stat.	p-value
Constant	0.018	0.031	0.588	0.557
<b>Age (ref: 15 – 24 years)</b>				
Age (25–34) dummy	0.090*	0.019	4.812	0.000
Age (35–44) dummy	0.183*	0.017	10.547	0.000
Age (45–54) dummy	0.199*	0.019	10.615	0.000
Age (55–64) dummy	0.219*	0.023	9.712	0.000
<b>Occupation (ref: unemployed)</b>				
Daily wage dummy	0.021	0.028	0.764	0.445
Private job dummy	0.064	0.053	1.204	0.229
Government job dummy	0.142*	0.033	4.358	0.000
Self-employment dummy	0.017	0.014	1.251	0.211
<b>Education (ref: illiterate)</b>				
Lower primary education dummy	0.056**	0.025	2.226	0.026
Upper primary education dummy	0.086*	0.027	3.247	0.001
Secondary education dummy	0.093*	0.027	3.439	0.001
Higher secondary education dummy	0.116*	0.028	4.068	0.000
Graduation & above dummy	0.166*	0.029	5.684	0.000
F ratio (significance)		16.841*	(0.000)	
R square		0.278		
Std. error		0.1144		

*Note.* WEI as the dependent variable; \*, \*\* significance at 1% and 5% level of probability, respectively

*Source:* OLS estimation from primary data

### Multidimensional Poverty

The Millennium Development and the Sustainable Development Goals emphasised the role of women's empowerment and the importance of multidimensional poverty in achieving sustainable development in a country. Different researchers' study on the gendered nature of multidimensional poverty, indicates women's vulnerability to men. This study tries to supplement the literature by studying multidimensional poverty among women in rural Odisha.

Deprivation of women across different indicators shows that almost all women are not deprived of indicators such as vaccination, access to safe drinking water, and access to electricity (Table 7). This result reflects the awareness of women regarding the positive contribution of vaccination, the use of safe and clean drinking water on the health of the family members and the successful execution of vaccination programmes and programmes relating to the supply of safe and clean drinking water and electricity by the government in the rural areas of the state.

The study observed that the deprivation gap between multidimensionally poor and non-poor women concentrates on five indicators, viz., completed years of schooling (46.24%), nutritional status (41.18%), access to improved sanitation (32.62%), access to clean energy for cooking (40.13%), and employment (39.84%).

The wide deprivation gap in a completed year of schooling is also reflected in the position of the women (about one-third) having 10 or more years of schooling

in the state (Planning and Convergence Department, 2021). The preferential attitude of parents towards the education of their son and the engagement of girls in household activities providing space for mothers to be engaged in economic activities, especially in poor households, are the major reasons for the deprivation of women on the educational front.

Women are still adopting the age-old practices of using traditional cooking fuels such as firewood and cow-dung cakes (about 70%) and practising open defecation (about 50%) despite the operation of government programmes/schemes like 'Pradhan Mantri Ujjwala Yojana (to make clean cooking fuel available to the rural and deprived households) and Swachh Bharat Mission (to eliminate open defecation and improve solid waste management) in the village, upholding the findings of Bagli and Tewari (2022) in their study in Purulia district of West Bengal. The study also observed that about 61.18 % of women possessing LPG still use dirty fuel for cooking. High refilling costs of LPG and easy access to other low-cost solid fuels are observed to act as the major obstacles to using clean cooking fuel. Although women in the study area value LPG more than other household commodities, lack of control over household expenditure decisions is the other reason for the low use of LPG. The study also witnessed that about 41.46% of women with access to flush toilets and latrines are going for open defecation, suggesting the failure of widespread subsidised latrine construction efforts made by the government

Table 7

*Indicator-wise deprivation status of women across different levels of multidimensional poverty*

Indicator	Not Deprived (%)	Deprived (%)	MDNP with poverty cut-off 0.3333 (Deprived %)	MDP With poverty cut-off 0.3333 (Deprived %)
Completed year of schooling	63.12	36.88	0.00	46.24
Vaccination	100.00	0.00	0.00	0.00
Nutritional status	45.97	54.03	21.19	62.37
Housing condition	89.71	10.29	7.63	10.97
Access to safe drinking water	100.00	0.00	0.00	0.00
Access to electricity	99.66	0.34	0.00	0.43
Access to improved sanitation	49.40	50.60	24.58	57.20
Access to clean energy for cooking	30.70	69.30	37.29	77.42
Asset ownership	4.46	95.54	84.75	98.28
Employment	21.61	78.39	46.61	86.45

*Note.* MDP—Multidimensionally Poor; MDNP—Multidimensionally Not Poor

Source: Authors' estimation from primary data

in the region to meet their objectives. Half-hazard construction of latrines, construction of latrines without bathing facilities, and the preference of rural people towards open defecation are the important reasons for the limited use of available latrines.

The deprivation status of women across the different occupational groups, ages, social groups, and education are presented in Table 8. Economic empowerment is important for women to achieve their potential and advance their rights. Engagement in any economic activity improves the economic base of women and the family. Increased income helps women to have access to an improved standard of living and come out of deprivation. However, the study's outcome reveals that about 78% of women

are deprived of employment, supporting the studies made by Bhattacharjee and Goswami (2021) and Omotoso et al. (2022). More than 90% of women categorised under SMDP are unemployed. Women are mostly engaged in the unregulated and unsecured informal sector. Only 62.79% and 30.23% of non-poor women are self-employed and engaged in government service, respectively. In a patriarchal culture, women are confined to household activities and find no time to engage in any economic activity. With the increases in age, household activities are passed on to younger female members, and the women in the higher age group are taking up some income-generating activities like dairy farming, goat rearing, and small business. The study observed a

Table 8

*Multidimensional poverty across occupation, age, social group and education*

		MPI Group (%)				Pearson chi-square ( <i>p</i> -value)
		Non- poor	Vulnerable to MDP	MDP	Severe MDP	
Occupation	Unemployed	0.00	82.18	85.31	90.91	286.322* (0.000)
	Daily wage earner	0.00	4.00	3.95	3.41	
	Private job	6.98	0.00	1.13	0.00	
	Government job	30.23	0.36	0.00	0.00	
	Self-employed	62.79	13.45	9.60	5.68	
Age (years old)	15–24	2.33	7.27	19.21	14.77	274.722* (0.000)
	25–34	18.60	7.64	24.86	18.18	
	35–44	41.86	8.73	51.98	48.86	
	45–54	27.91	49.45	3.95	18.18	
	55–64	9.30	26.91	0.00	0.00	
Social group	Obc	30.23	22.55	14.69	14.77	12.364 (0.194)
	Sc	13.95	10.18	11.86	13.64	
	Sebc	44.19	61.09	65.54	64.77	
	Ur	11.63	6.18	7.91	6.82	
Education	Illiterate	0.00	10.18	0.00	1.14	183.574* (0.000)
	Lower primary	0.00	26.91	3.39	30.68	
	Upper primary	6.98	23.27	6.21	31.82	
	Secondary	23.26	17.45	27.12	14.77	
	Higher secondary	25.58	12.73	26.55	11.36	
	Graduate and above	44.19	9.45	36.72	10.23	

Note. \*Significance at 1% level of probability

Source: Authors' estimation from primary data

statistically significant association between occupational category and multidimensional poverty as exhibited by *p*-value of the Pearson Chi-square test (0.000) which is less than 0.05.

Further, the Pearson Chi-square test reveals a statistically significant association between multidimensional poverty and age (*p*-value < 0.05). Nearly 80% of non-poor

women are above 35 years of age, whereas more than 80% of women suffering from severe multidimensional poverty are less than 45 years. No women within the age group 55–64 are either multidimensional poor or severely multidimensional poor.

No significant association is observed between multidimensional poverty and social group (*p*-value of Pearson Chi-square

test  $> 0.05$ ). However, multidimensional poverty is significantly associated with educational level. None of the women in the non-poor category is illiterate or has an educational level up to lower primary. As regards women in the non-poor category, 93% have the educational level of secondary education and above. On the contrary, only 36.36% of severely multidimensionally poor women have an educational level of secondary and above.

Women empowerment significantly alleviates multidimensional poverty (Bhoganadam et al., 2014; Sahoo, 2013; Wei et al., 2021). The present study finds a significant relationship between multidimensional poverty and women empowerment and other variables like

occupation, age, and education. Since no significant relationship exists between multidimensional poverty and social group, as observed from the chi-square test, this variable is dropped in the regression model.

OLS-based dummy variable multiple regression model is undertaken with MPI as the dependent variable and occupation, age, education, and women empowerment as the independent variables. 'Age (15–24)' under the variable 'Age', 'Unemployed' under the variable 'Occupation', 'Illiterate' under the variable 'Education' and 'Zero Empowerment' under the variable 'Women Empowerment' are taken as reference groups in the regression model. The result of the dummy variable regression analysis is given in Table 9.

Table 9

*Impact of socioeconomic and demographic variables on multidimensional poverty*

Variables	Coefficient	Std. error	t-stat.	p-value
Constant	0.7635*	0.025	29.964	0.000
<b>Age (ref: 15–24 years)</b>				
Age (25–34) dummy	-0.0380*	0.014	-2.688	0.007
Age (35–44) dummy	-0.0507*	0.014	-3.630	0.000
Age (45–54) dummy	-0.0456*	0.015	-3.007	0.003
Age (55–64) dummy	-0.0567*	0.018	-3.152	0.002
<b>Occupation (ref: unemployed)</b>				
Daily wage Dummy	-0.2296*	0.020	-11.312	0.000
Private job dummy	-0.2650*	0.039	-6.805	0.000
Government job dummy	-0.2833*	0.024	-11.729	0.000
Self-employment Dummy	-0.2406*	0.010	-23.439	0.000
<b>Education (ref: illiterate)</b>				
Lower primary education dummy	-0.0177	0.019	-0.947	0.344
Upper primary education dummy	-0.0953*	0.020	-4.808	0.000
Secondary education dummy	-0.2971*	0.020	-14.764	0.000
Higher secondary education dummy	-0.3110*	0.021	-14.606	0.000
Graduation & above dummy	-0.3354*	0.022	-15.134	0.000

Table 9 (Continue)

Variables	Coefficient	Std. error	t-stat.	p-value
<b>Women empowerment (ref: zero empowerment)</b>				
Wei (low) dummy	-0.0007	0.018	-0.039	0.969
Wei (moderate) dummy	-0.0023	0.017	-0.132	0.895
Wei (high) dummy	-0.0319**	0.018	-1.821	0.069
F ratio	125.718* (0.000)			
R square	0.780			
Std. error	0.0843			

Note. MPI as the dependent variable; \*, \*\* significance at 1% and 10% level of probability, respectively

Source: OLS estimation from primary data

The regression model applied in the study is statistically significant at a 1% significance level. The four variables taken together explain nearly 77.4% variation in multidimensional poverty. Statistically, a significant relationship is observed between MPI, and all dummy variables are taken under age, occupational groups, and education (except the dummy variable 'Lower Primary'). The significant contribution of women's empowerment in influencing multidimensional poverty is observed only for the higher empowered group.

All dummy variables are inversely related to MPI as reflected by the negative sign of regression coefficients indicating the positive influence of age, occupation, education, and women empowerment in reducing multidimensional poverty. With the increase in age, women are engaged in different productive activities and are more empowered in society, which extends their capabilities to other domains of functioning such as education, health, and better living conditions.

Regression coefficients relating to different educational groups indicate the positive and increasing influence of education level in plummeting multidimensional poverty. Increased educational level enhances the skills and knowledge of women and their employability. All these positively impact women's earning capacity, which helps reduce the deprivation in other dimensions of multidimensional poverty. The increased educational level of women empowers them to make their own healthcare decisions and the healthcare of their children and other family members. This observation of the study supports the finding of the work undertaken by Wei et al. (2021).

The study also observed the positive contribution of women's employment in reducing multidimensional poverty. Women's engagement in any economic activity, other things remaining constant, reduced the MPI score minimum by 0.2296. It corroborates the study carried out by Abebe and Tesfaye (2017), Acharya and Samantray (2013), Alabi et al. (2019), Arora

and Arora (2012), P. Jena et al. (2021), Mohanty et al. (2013), and U. Tripathy (2015).

An attempt is made to project the position of women in different poverty levels based on the results obtained in the regression analysis, each for zero empowered women (Table 10) and high empowered women (Table 11) across different occupation and educational levels.

The projected coefficients indicate that the poverty level decreases with an increase in educational level across all occupational categories. Women engaged in any economic activity with the educational level of graduation and above and with the educational level of higher secondary and engaged in private or government jobs are projected as non-poor.

Table 10

*Projected multidimensional poverty status of zero empowered women across education and occupation*

	Illiterate	Upper primary	Secondary	Higher secondary	Graduation and above
Unemployed	0.764	0.668	0.466	0.453	0.428
Daily wage	0.534	0.439	0.237	0.223	0.199
Private job	0.499	0.403	0.201	0.188	0.163
Government job	0.480	0.385	0.183	0.169	0.145
Self-employment	0.523	0.428	0.226	0.212	0.188

*Note.* SMDP—Severely Multidimensionally Poor (projected score 0.5 and above), MDP—Multidimensionally Poor (projected score between 0.333 and 0.5), VMDP—Vulnerable to Multidimensionally Poor (projected score between 0.2 and 0.333), and MDNP—Multidimensionally Not Poor (projected score below 0.2)

Source: Authors' projection based on OLS Estimation

Table 11

*Projected multidimensional poverty status of highly empowered women across education and occupation*

	Illiterate	Upper primary	Secondary	Higher secondary	Graduation and above
Unemployed	0.732	0.636	0.435	0.421	0.396
Daily wage	0.502	0.407	0.205	0.191	0.167
Private job	0.467	0.371	0.170	0.156	0.131
Government job	0.448	0.353	0.151	0.137	0.113
Self-employment	0.491	0.396	0.194	0.180	0.156

*Note.* SMDP—Severely Multidimensionally Poor (projected score 0.5 and above), MDP—Multidimensionally Poor (projected score between 0.333 and 0.5), VMDP—Vulnerable to Multidimensionally Poor (projected score between 0.2 and 0.333), and MDNP—Multidimensionally Not Poor (projected score below 0.2)

Source: Authors' projection based on OLS Estimation

A very encouraging observation is witnessed in Table 11. Suppose any policy intervention helps a woman to become highly empowered and enables her to be engaged in any economic activity. In that case, she will be considered multidimensionally non-poor even with an educational level of secondary education. It indicates the role of education and women's empowerment in reducing multidimensional poverty.

## CONCLUSION

This study is the first to analyse the status and determinants of women's empowerment and multidimensional poverty in rural Odisha. The major findings of the study concentrate on (1) the presence of a high level of social and political disempowerment among rural women, (2) the existence of high deprivation gap between multidimensionally poor and non-poor women in completed six years of schooling, nutritional status, access to improved sanitation and clean cooking fuel, and employment, (3) the positive contribution of age and education in enhancing women empowerment, and (4) the impact of self and wage employment, education, and high women empowerment on reduction of multidimensional poverty.

Although the participation of women in rural local governments (*Panchayati Raj*) has increased after the enactment of the Odisha Panchayat Laws (Amendment) Act, 2011 in enhancing the quota for women from 33 to 50% in *Grama Panchayats*, *Panchayat Samities*, and *Zilla Parishads*, still women's are highly disempowered in political front, in the study area. It is

expected that rural women's educational and economic empowerment through strengthening their capabilities and self-reliance will accelerate the political and social empowerment.

High refuelling price of LPG and the inability of women to influence the household decision stands against the use of clean cooking fuel. With women's economic and domestic empowerment, it is expected that they can influence the household decision to go for clean cooking fuel. Further, the study observed high level of open defecation results in high incidence of deprivation in sanitation. Creation of awareness among women for large scale use of household latrines will lessen the level of multidimensional poverty among rural women in the state.

The study observed the positive role played by women's empowerment and their engagement in any economic activity in reducing multidimensional poverty among rural women. This calls for policy intervention in empowering women through vocational and skill-based education for girls at the secondary level of education and economic empowerment through various training programmes in uplifting their employability skills. The introduction of the gender equality programme in over 20,000 Government schools to integrate a gender equity curriculum into the syllabus for students is a right step by Govt. of Odisha in enhancing educational empowerment among women.

The government of Odisha has adopted the "Odisha State Policy for Girls and Women

2014” to create an enabling environment for the empowerment of girls and women in enhancing their capacities and eliminating discrimination. The State Government, through “Mission Shakti,” is endeavouring to enhance women’s empowerment in the state. SHGs have provided easy capital for agro-based and other economic activities like bamboo crafts, incense sticks making, candle making, and dairy and goat rearing. Still, the SHGs operating in rural areas face a major problem in marketing their products. Therefore, widening marketing channels for the products produced by SHGs will uplift economic conditions of the rural women.

The commitment of the state government in empowering women is asserted in the statement “from rolling out Mission Shakti for women empowerment in 2001 to reserving 33% for women in parliament in 2019, as an attempt to address the underrepresentation of women in the political space, Odisha government has continually putting efforts to make Odisha a land of equal opportunities” (Planning and Convergence Department, 2022, p. 376). It is expected that the state government’s commitment will be realised in its true spirit to empower rural women and helps them to overcome the barriers to reduce the multidimensional poverty in the state.

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## **Correlates of Crime Prevention and Perception of Safety Using the Knowledge, Attitudes, and Behavior (KAB) Model**

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### **ABSTRACT**

As empirical studies have progressed, various metrics and study areas have been incorporated into safety perception and worry about victimization. In this study, the Knowledge, Attitude, and Behavior Model was applied in evaluating the cognitive and emotional domains of 401 residents of Zamboanga del Sur, Philippines focusing on their knowledge of crime prevention, safety perception, and fears of victimization. Using the model, the knowledge of crime prevention, safety perception, and fear of victimization was considered an exploratory variable based on the common-sense assumption that feelings and emotions govern how people perceive certain things. The result shows that implemented crime prevention strategies in the province were observable, and community awareness is considerable. Regarding safety and security, the respondents rated the province as safe for everyone and moderately safe when personal belongings are left unattended. The threats to physical safety and security against persons and property are less likely to occur. Finally, the data show a statistically significant weak positive correlation between crime prevention and the perception of safety and security. The associations of safety and security and general satisfaction with personal safety among the representative samples

show a significant positive weak correlation. Knowledge of crime prevention strategy and general satisfaction with personal safety shows a weak, statistically significant positive correlation. Thus, awareness of crime prevention significantly influences the safety perception, level of worry, and satisfaction with personal safety.

**Keywords:** KAB model, correlational study, crime prevention, safety and security perception, worries of victimization

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## INTRODUCTION

People are increasingly concerned about crime and fear of it, and these issues have grown to be exceedingly serious as crime has the potential to influence economic opportunities and employment (Chalfin, 2015; Goulas & Zervoyianni, 2015), youths' criminal behavior in later life (Damm & Dustman, 2014), mental well-being (Cornaglia et al., 2014; Medina & Tamayo, 2012; Tan & Haining, 2016), health (Dustmann & Fasani, 2016; Halle et al., 2020) and has a tangible and intangible cost to society (Baranyi et al., 2021; Wickramasekera et al., 2015). Not surprisingly, criminal activities' impact on the community varies widely. However, it is acceptable to expect that various types of crime, including unemployment, can lead to different social costs (Detotto & Vannini, 2010; Howell, 2014; Kassem et al., 2019). The poor economy resulting from crimes will further spur people to commit crimes for monetary benefit (Tongsamsi & Tongsamsi, 2018).

The crime involves costs for victims, i.e., neighborhoods and society, in general, stolen and damaged goods, loss of productivity, physical harm, fear, and emotional distress, the risk of violence, and the expenses of the government to bring the perpetrator before the courts (Anderson, 2011; Button et al., 2014; Detotto & Vannini, 2010). The risk of crime leads to increased funds allocated to crime-prevention programs, resulting in higher stress levels for citizens and consequently impeding community productivity (Jaitman

& Compeán, 2015; Motta, 2017). Many studies were conducted examining the effect of crimes on productivity, such as in tourism industries (Batra, 2008; Lisowska, 2017), hotel operating performance (Hua & Yang, 2017), business and entrepreneurial activity (Rosenthal & Ross, 2010; Sloan et al., 2016), economic growth (Burnham et al., 2004) and other areas. Moreover, Tongsamsi and Tongsamsi (2018) concluded that the effects of economic conditions on property crime rates depend on social conditions and the relationship between economic and social factors. Such societal needs about crime posed significant safety and security concerns among communities everywhere.

As part of law enforcement's mission to keep the public safe from violence and harm, the police and other law enforcement agencies exist. The most crucial role of the police is to promote a safe and secure community to eliminate insecurity and fear of victimization. Providing safety, security, and justice on an equitable basis for all citizens is critical for legitimacy and effectiveness. The fundamental purpose of the community policing technique was to reduce the chance of victimization and generate a sense of safety and security in the neighborhood. It aids in the reduction of public mistrust in dangerous places. Creating trust and offering services to local communities helps generate virtuous cycles of institutional transformation and national development (World Bank, 2011). Under this concept, community safety is narrowed to a focus on corrective action in cases where punitive methods fail, and

step is performed at the community level to remedy these imbalances (Matt, 2011; Whitzman, 2008).

Despite the plethora of research about crime, criminality, and victimization, the community's perception of crime safety, security, and worries about victimization has gained little attention (Williams et al., 2002). Much of the relevant study has focused on physical and social incivilities evaluating people's perception of a crime risk and neighborhood safety (Kidd & Anderson, 2015; Worrall, 2006). A recent study on crimes conducted in Melbourne focuses only on young people's views of public transportation safety (Hamilton et al., 2011).

In the Philippines, crime is a pervasive social issue that has reached alarming proportions, and the prevention of crime is a role that plays an enormously significant role. The authorities that oversee enforcing the law have the duty of keeping an eye on the rate of criminal activity that has steadily increased in modern society and bringing it down to a more manageable level. Maxwell (2019) found that the residents think the country's crime problem is serious at the national level and less serious in their town. However, there was a significant decrease in the crime rate in 2020, which was 39.50% lower than the previous year (Philippine Statistics Authority, 2021). At the local level, crime volume dropped by 26.49% in the third quarter of 2020 compared to the previous year. In crime victimization cases in the country, street crimes are less likely to occur. However, the risk of bullying in school among teenagers is frequent

and significantly greater than the global rate of 30% among adolescents (Elgar et al., 2015; Peltzer & Pengpid, 2015). The lack of self-control and participation in dangerous lifestyles are also contributing to the increase in victimization in the Philippines (Barrera, 2018).

The above literature postulates an understanding of the nature and consequences of crime on safety and security. However, insecurity and fear cannot be fully understood without knowing the side stories of the community as they have firsthand experiences and knowledge on the issues, which make them feel insecure and fear doing activities that expose them to the victimization of crimes. Consequently, this research aims to shed light on community policing through crime prevention activities and how it contributes to the feeling of safety and security among diverse residents of Zamboanga del Sur province in the Philippines.

Fewer safety and security evaluations in the province of Zamboanga del Sur are conducted relative to the national and local reduction in the reported crime rate. These studies would give baseline information about the perceived safety and security felt by the province's people, leading to policy formulation, enhancement of the existing public safety programs, and development projects for improving public safety and reducing the crime rate.

## Literature Review

Increasing the feeling of security against the threat of crime among members of

a society can enhance the well-being of a nation's population. It is vital to have consistent policies in addition to logical and organized behaviors. Maintaining the peace and well-being of the people to reduce crime should be an important component, which should also involve reducing people's fear of crime (Che Azmi & Hamdan, 2022). As crime occurs in the community, residents continue to perceive social upheaval, harming their quality of life and civic culture (Ulrich-Schad et al., 2019). Understanding how people perceive and feel about changes in their surroundings is essential to explain why they alter their conduct, but it is impossible to conclude with certainty if the changes in behavior impacted their sense of safety (Ulrich-Schad et al., 2019). Additionally, it was underlined that tourists' perceptions of safety and crime are crucial for comprehending and satisfying their inherent needs for safety when visiting a tourist destination (Batra, 2008).

Citizens' views regarding different crime-related topics, such as the relevance of crime as a social problem, security against crimes, the severity of criminal penalties, and the death penalty, are known as public perceptions of crime. Public perception of security against crime is relevant and valuable to policymakers because it helps them shape legislation and government measures (Lu, 2015). Moreover, public perceptions of crime significantly impact policy decisions and operational activities in frontline law enforcement and sentencing (Cohen, 2000). Crimes and violence exemplify the adverse effects of injury and

danger to the victims and the public. The primary goal of the community policing strategy was to lower the likelihood of victimization and promote a sense of safety and security in the neighborhood. Davey and Wootton (2016) added that crime and antisocial behavior are the top problems for policymakers and individuals. Victims of crime may sustain financial, bodily, and actual trauma, all of which can negatively affect their long-term quality of life. Crime and insecurity can negatively influence communities and their use of public services, such as public transportation.

Safety is one of humanity's basic needs in Maslow's Hierarchy of Needs. Human nature is to protect themselves and theirs from harm. It may manifest as physical, psychological, or emotional harm. Numerous scientific research indicates that the field of safety is undervalued. However, even without reference to Maslow's Hierarchy of Needs, it is clear that safety is a critical component of living quality in any community (Lacinák & Ristvej, 2017). Personal safety is vital for citizens because it relates to the need to establish human security, a people-centered concept of security that recognizes that vulnerable individuals are entitled to be free from fear and movement, with an equal opportunity to exercise all their rights and fully develop their human potential (Bakrania & Haider, 2016). Kidd and Anderson (2015) stress that human characteristics, such as perceptions, social support, mental health and well-being, and cognitive emotion control, are all acceptable and necessary components of a

broad and diversified community safety and security definition.

The physical characteristics of a location, such as lighting, security cameras, and facilities, can be linked to people's perceptions of safety, which can contribute to resilience and security outcomes. Security may also relate to protection from external threats, such as terrorist threats, public disturbances, and contagious diseases. The concept of security may mean something different to different parts of the community, depending on their perspective (Waka Kotahi NZ Transport Agency, 2022). However, one's sense of safety is especially important among the residents where community safety programs are enforced.

Studies have shown that there is not always a link between actual crime rates and perceptions of safety, even though the latter still affects the well-being of the community as a whole (McPhail et al., 2017; Tilley & Tseloni, 2016). It brings an additional level of complication to determining how research on people's perceptions of safety may be applied to enhance the overall well-being of communities. Moreover, the focus of risk perception research has shifted from cognition to the function of emotion. Today, it is widely acknowledged that both factors are vital in decision-making (Fyhri et al., 2010). This research would address both concerns and proves their respective contributions to address methodological obstacles. From this perspective, the knowledge of crime prevention and perception of safety is equally important in ascertaining worries about crime victimization.

## Conceptual Framework

The Knowledge, Attitudes, and Behavior (KAB) model was adapted to formulate the study flow. The model is a viable tool to evaluate improvements and identify the results that increase human performance in any field (Schrader & Lawless, 2004). The KAB model describes the significance of knowing and posits that behavior changes gradually. As knowledge accumulates in a health behavior domain, attitude adjustments are triggered. Over time, changes in attitude accumulate, culminating in behavior modification (Baranowski et al., 2003; Bilal et al., 2011). Much research demonstrates that the KAB model can be used as a conceptual framework for understanding the process of change in the behavior on security awareness (Sas et al., 2019), cabin safety (Chuaychoo, 2021), information security (Bilal et al., 2011; Parsons et al., 2014), food safety (Chang et al., 2003), and behaviors regarding elderly abuse (Yi & Hohashi, 2019). This study examines the observability and knowledge of crime prevention strategies to establish an association between personal security and safety, worry about victimization, and general satisfaction with personal safety. From three perspectives, the KAB model was adapted to study the change in behavior in crime prevention and the perceptions of safety and security against crime. The importance of this study shows that by predicting the attitude of the respondents on their state of safety and security against crime victimization, agencies involved can develop crime prevention programs that will

reduce the worry and increase the feeling of personal safety in the community. The three phases guide of the KAB model is presented in this study, as shown in Figure 1 (Chuaychoo, 2021; Iyer, 2018; Parsons et al., 2014).

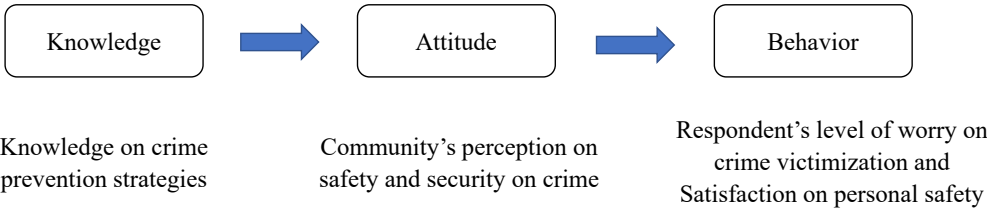


Figure 1. The KAB model employed for the study

Based on the KAB model, this study assumed that what residents know about the crime prevention strategy of the province may affect their attitudes toward safety and security, and the degree to which their attitudes toward their safety are good may consistently influence their level of worry against being a victim of a crime (Figure 2). Thus, the primary objective of this study is to determine the respondents' level of awareness of crime prevention implementation in the Zamboanga del Sur province of the Philippines. The second objective is to assess the perception of the residents on safety and security against crimes in the province, prevailing threats to physical safety, and security against property and persons. The third goal is to ascertain the residents' concerns about criminal victimization. Finally, the correlation

between the variables supplied must be determined. Therefore, the following hypotheses are proposed:

*H<sub>1</sub>: Crime prevention strategy knowledge and the perception of safety and security are positively related*

*H<sub>2</sub>: Perception of safety and security and level of worry for crime victimization are inversely related*

*H<sub>3</sub>: Perception of safety and security and general satisfaction with personal safety are positively related*

*H<sub>4</sub>: Crime prevention strategy knowledge and general satisfaction with personal safety are positively related*

*H<sub>5</sub>: Crime prevention strategy and the level of worry about crime victimization are inversely related*

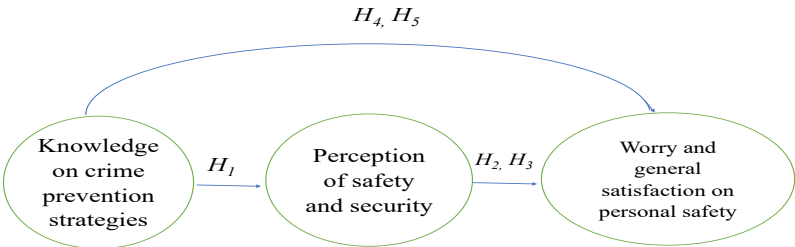


Figure 2. The proposed hypotheses

## METHODS

### Ethical Approval

Approval for the conduct of the study was secured through the Institutional Research Ethics Committee (IERC) of J.H. Cerilles State College (JHCSC) before the survey was done. Since JHCSC funded this study with the Board Resolution Number 22 series of 2020, the researchers underwent an evaluation process of research protocols. The protocols were also appropriately discussed regarding the information to be collected. The researchers abide by the provisions of the Republic Act Number 10173 (The Data Privacy Act of 2012), and the Philippines Health Research Ethics Board (PHREB) guidelines for research involving human subjects.

### The Design, Data Collection Tools, Sampling, and Population

The descriptive-correlational approach is applied in this study. The first part of the survey questions was taken from Piscitelli (2011). These questions are about crime prevention, how safe they felt, and how they thought they might become victims in the future. Crime prevention strategies are evaluated using a 4-point Likert scale (Eser et al., 2020): 1.00–1.75 is not observable, 1.76–2.5 is moderately observable, 2.51–3.25 is observable, and 3.26–4.00 is highly observable.

The second part of the questionnaire is taken from Diprose's (2017) survey module. Particularly, modifications are made to offenses such as burglary and larceny, which in the Philippines have different designations

and elements of the commission of the crime. The suggested survey module on physical safety and security is divided into three sub-components to ensure that questions are answered logically and sequentially. It will maximize the data that can be recorded in around ten to fifteen minutes. The first sub-component is to determine the frequency of property-related crimes. A 5-point Likert scale was utilized for class intervals and their descriptive values to interpret the computed mean of the perception of safety and security in the province with the following arbitrary values and statistical limits: 1.00–1.79 is not safe at all, 1.80–2.59 least safe, 2.60–3.39 moderately safe, 3.40–4.19 is safe, and 4.20–5.00 is very safe.

The second sub-component covers threats to a person's physical safety and security. The third sub-component of the survey module is to determine the level of worry about crime victimization and would be interpreted by a 4-point Likert that has the following arbitrary values and statistical limits: 1.00–1.75 is not worried at all, 1.76–2.5 is not too worried, 2.51–3.25 is somewhat worried, and 3.26–4.00 is very worried. Validation and reliability testing are conducted during the instrument's finalization process, yielding a fit-for-use result with an alpha between 0.8 to 0.9 and is strongly reliable based on Taber's (2018) guide.

Convenience sampling is utilized as the data-gathering tool during the actual survey. In the proposal stage of the study, the actual survey protocol is through a printed

questionnaire. However, due to the onset of the COVID-19 pandemic with quarantine restrictions, the protocol was modified with the approval of the IERC to use an online survey utilizing Google Forms. Respondents in this survey were over 18 and had been living or working in the province for at least three years before participating in the research. The respondents were recruited using email, Facebook, messenger, and Short Messaging Services (SMS). The researchers used Cochran's (1977) procedure for sample size computation to determine the number of samples. In the most recent survey in 2015, the estimated population of Zamboanga del Sur province was 1,010,674. The result indicated that 385 or more representative samples are needed for the survey to have a confidence level of 95% within  $\pm 5\%$  significance level. In this case, 401 respondents were able to participate in the survey. Thus, this ensures that the sample size reduces the likelihood of errors. Data gathering started in June 2020 and ended in August of the same year.

Following the guide presented by Alessi and Martin (2010), the online survey was done with an opening page that outlines the intent of inquiry, identification, and affiliations of the researchers and specifies what involvement would entail before requiring participants to answer the questions. Any requirements for inclusion or omission were made clear such as only those who reside or have worked in the province of Zamboanga del Sur for the last three years with ages, not under 18 years old. The online survey program has

screening questions so that only participants who agree to satisfy those requirements can access the remainder of the survey (Ball, 2019). Based on Bernard's (2017) design, well-established rules were also followed, including the unambiguous use of terms that the participants understand, paying attention to contingencies and filter questions, giving respondents a "Don't Know" option, and avoiding loaded loading and repeated questions. The data was extracted from the Google Form using Google Spreadsheets and analyzed based on the study's presented objectives using SPSS Version 22. Descriptive statistics and correlation tests were used in the data analysis to investigate the association between the variables.

Pearson correlation coefficient ( $r$ ) was used to analyze the correlation between measures. In interpreting the correlation, the suggested guide of Schober and Schwarte (2018) was used as the absolute magnitude of the observed correlation coefficient and its interpretation with the following range: 0.00–0.10 as negligible correlation, 0.10–0.39 weak correlation, 0.40–0.69 as moderate correlation, 0.70–0.89 as strong correlation, and 0.90–1.00 as very strong correlation.

## RESULTS AND DISCUSSION

### Implemented Crime Prevention Strategies

In this study, the respondents are 48.88% female, 46.13 male, and 4.99 belonging to LGBT. Most respondents were 21–30 years old (83.79%). The respondents were

mainly single, 85.04%, and had stayed in the province for 6 to 8 years (78.30%). The research sample shows that crime prevention

strategies were observable in Zamboanga del Sur province in the Philippines.

Table 1

*Implemented crime prevention strategies observed by the residents*

Crime prevention strategies	$\bar{x}$	SD	Interpretation
1. Presence of police in the community	3.42	0.67	Highly observable
2. Patrolling in highly populated areas	3.33	0.69	Highly observable
3. Requiring all vehicles to run within a minimum speed	3.16	0.84	Observable
4. Presence of choke points and checkpoints on major municipal roads	3.41	0.68	Highly observable
5. Fixed tarpaulin and poster about crime prevention and crime reporting in public places	3.13	0.80	Observable
6. Presence of a police assistance center	3.30	0.75	Highly observable
7. Protection by political parties	3.04	0.85	Observable
8. The protection provided by various organizations	3.05	0.81	Observable
9. Discipline and unity among the community people	3.32	0.72	Highly observable
10. Road traffic management	3.09	0.84	Observable
11. Enforcement of relevant laws and orders	3.25	0.79	Observable
12. Installation of CCTV cameras to monitor people's activity	2.79	0.97	Observable
13. Neighborhood watch	2.85	0.85	Observable
14. Police multipliers are present	3.03	0.82	Observable
15. Community police post is present	3.12	0.81	Observable
<b>Overall mean</b>	<b>3.15</b>	<b>0.79</b>	<b>Observable</b>

Table 1 shows that the residents of Zamboanga del Sur are cognizant of the crime prevention strategies at an observable level ( $\bar{x} = 3.15$ ,  $SD = 0.79$ ). Concerning crime prevention, the presence of police in the community ( $\bar{x} = 3.42$ ,  $SD = 0.67$ ) is found to be highly observable, followed by the presence of choke points and checkpoints

in major roads found to be highly observable ( $\bar{x} = 3.41$ ,  $SD = 0.68$ ), patrolling in highly populated areas ( $\bar{x} = 3.33$ ,  $SD = 0.69$ ), discipline and unity among the community people ( $\bar{x} = 3.32$ ,  $SD = 0.72$ ), and presence of a police assistance center ( $\bar{x} = 3.30$ ,  $SD = 0.75$ ). The province's residents are aware of the activities conducted against crime.

**Perceptions of Safety and Security in the Province**

Table 2 shows that Zamboanga del Sur province is safe for everyone, as perceived by the representative sample population ( $\bar{x}$  = 3.55, SD = 1.10). Concerning safety and security, the citizens rated that walking on the street during nighttime is safe ( $\bar{x}$  = 4.00, SD = 1.36), followed by going to the park alone ( $\bar{x}$  = 3.90, SD = 0.89), wearing pieces of jewelry while in public space ( $\bar{x}$  = 3.83, SD = 0.93), hanging of clothes outside of the residence ( $\bar{x}$  = 3.79, SD = 0.95), and tourist visits ( $\bar{x}$  = 3.70, SD = 0.93).

Following these findings, as can be expected, the locals of Zamboanga del Sur believed that crime is less likely to occur when people are in public spaces and with companions. Also, if valuables are left unattended, there is an increased likelihood of crime because it entices and provides the would-be criminal an opportunity to commit the crime. When people are alone in a public area, especially at night, they are more vulnerable to becoming victims of crime than when others accompany them.

Table 2  
*Perceptions of safety and security in the province*

Perceptions of safety and security in the province	$\bar{x}$	SD	Interpretation
1. Walking on the street during nighttime	4.00	1.36	Safe
2. Leaving motorcycle or any vehicles outside the residence	3.52	1.07	Safe
3. Leaving livestock unattended	3.37	1.02	Moderately safe
4. Wear pieces of jewelry while in a public space	3.83	0.93	Safe
5. Leaving home unattended during nighttime	2.68	1.67	Moderately safe
6. Forgot to close the gates	3.34	1.19	Moderately safe
7. Allowing children to play at night outside the house	3.35	1.14	Moderately safe
8. Tourist visits	3.70	1.06	Safe
9. Parked cars without occupants.	3.53	0.93	Safe
10. Waiting for public transport during nighttime	3.40	1.12	Moderately safe
11. Hanging clothes outside the residence	3.79	0.95	Safe

Table 2 (*Continue*)

	$\bar{x}$	SD	Interpretation
12. Leaving valuables such as shoes, clothes, and tools outside the house.	3.68	0.98	Safe
13. Carrying valuables while walking in the street	3.60	1.04	Safe
14. Going to the park alone	3.90	0.89	Safe
15. First-time visits to the place	3.62	1.10	Safe
<b>Overall mean</b>	3.55	1.10	Safe

### Threats to Physical Safety and Security Against Property and Person

Table 3 shows the responses to the threats to physical safety and security against property and persons.

Table 3 shows the frequency and percentage of respondent's responses to the identified threats to physical safety and security against persons and property of

401 respondents. The table shows that a greater majority of the sample population has not witnessed and experienced threats to physical safety and security against property (N = 328, 81.00%). Moreover, most of the sample population have not witnessed and experienced physical safety and security threats against a person (N = 333, 83.25%).

Table 3

### Threats to physical safety and security

Threats to physical safety and security against property	Yes		No	
	n	%	n	%
1. My companion and I, or any household member, were victimized by crime against property.	59	14.71	342	85.29
2. Someone tries to get into my house or place where I stay without permission to steal or steal something in this place.	63	15.71	338	84.29
3. Someone took something from me, my companion, or a household member with force or a threatening manner during my stay at this place.	61	15.21	340	84.79
4. Someone deliberately destroyed or caused damage to property that I owned, my companion, or a member of my household during their stay in this place.	52	12.97	349	87.03
5. I have witnessed or heard that crimes against the property were victimizing someone during my stay in this place.	130	32.42	271	67.58

Table 3 (Continue)

Threats to physical safety and security against a person	Yes		No	
	n	%	n	%
1. My companion and I, or a household member, were assaulted (hit, slapped, shoved, punched, pushed, or kicked) with staying at the municipality.	69	17.21	332	82.79
2. I, my companion or household member, was stabbed, beaten, throttled, or otherwise attacked).	41	10.22	360	89.78
3. Did someone shoot you, your companion, or a household member while staying in this town?	39	9.73	362	90.27
4. Is anybody you know being kidnapped in this town?	39	9.73	355	88.53
5. Did anybody you know threaten by an explosion in this place?	46	11.47	355	88.53
6. Did anybody in this place have heard of being abducted, sexually harassed, or raped while they stayed in this place?	124	30.92	277	69.08
7. I have witnessed or heard that crimes against a person were victimizing someone during my stay in this place.	108	26.93	293	73.07
<b>Total</b>	<b>67</b>	<b>16.60</b>	<b>333</b>	<b>83.15</b>

**Level of Worry Felt by the Community on Crime Victimization**

Table 4 indicates that Zamboanga del Sur Province citizens are somewhat worried about being victimized by a crime ( $\bar{x} = 2.58$ ,  $SD = 1.08$ ). The community was worried that the member of their household might be the victim of a property crime like theft ( $x = 2.85$ ,  $SD = 1.15$ ), followed by victimized

of a violent crime like assault ( $\bar{x} = 2.82$ ,  $SD = 1.16$ ), victimized by home envision (and residential break-in ( $\bar{x} = 2.78$ ,  $SD = 1.14$ ). However, it is noteworthy on a personal level that the respondents rated that being assaulted scored not worried at all ( $\bar{x} = 1.45$ ,  $SD = 0.5$ ), and the least among the item rated with somewhat worried were being held up or mugged ( $\bar{x} = 2.52$ ,  $SD = 1.1$ ).

Table 4

*Level of worry about crime victimization among the sample population*

Feeling of worry about crime victimization	$\bar{x}$	SD	Interpretation
1. I worried about being held up or mugged.	2.52	1.1	Somewhat worried
2. I am worried about being assaulted.	1.45	0.5	Not worried at all
3. I worry about having my vehicle, residence, or another property was broken into.	2.61	1.16	Somewhat worried
4. I worry about having my vehicle, residence, or other property vandalized.	2.59	1.16	Somewhat worried

Table 4 (Continue)

	$\bar{x}$	SD	Interpretation
5. I worry that a home invasion may victimize a member of my household.	2.79	1.17	Somewhat worried
6. I worry that a member of my household may be the victim of a residential break-in/ burglary.	2.78	1.14	Somewhat worried
7. I worry that a member of my household may be the victim of a violent crime like assault.	2.82	1.16	Somewhat worried
8. I worry that a member of my household may be the victim of sexual assault.	2.80	1.18	Somewhat worried
9. I worry that a member of my household may be the victim of a property crime like theft.	2.85	1.15	Somewhat worried

On the levels of worry among the community, representative samples pay little attention to personal worry but express greater worry for the member of their household being victimized by a crime. It suggests that knowledge of status safety and security in the province influences personal safety concerns on a personal level.

#### Correlation of the Variables (n = 401)

Pearson correlation coefficient (r) was used to analyze the correlation between

measures. The suggested guide by Schober and Schwarte (2018) was then utilized to interpret the correlation.

Table 5 shows a significant weak positive correlation between crime prevention and the perception of safety and security with  $n = 401$ ,  $r = 0.246$ ,  $p(0.000)$ . Safety and security perceptions and the representative samples' worry levels show a weak inverse correlation with  $n = 401$ ,  $r = -0.277$ ,  $p(0.000)$ . Safety and security and general satisfaction with personal safety among the representative

Table 5

Correlation between measures

Correlation between measure	$\bar{x}$	SD	r	p-value
<b>Correlation of crime prevention on the perception of safety and security</b>				
Perceptions of safety and security in the province	3.15	0.79	0.246**	0.000
Observed crime prevention strategies	3.55	1.10		
<b>Correlation of perceptions of safety and security and level of worry on crime victimization</b>				
Perceptions of safety and security in the province	3.15	0.79	-0.277**	0.000
Level of worries about crime victimization	2.58	1.08		

Table 5 (Continue)

	$\bar{x}$	SD	r	p-value
<b>Correlation of safety and security and general satisfaction with personal safety</b>				
Perceptions of safety and security in the province	3.15	0.79	0.210**	0.000
General satisfaction with personal safety	3.29	0.67		
<b>Correlation of crime prevention strategy and general satisfaction with personal safety</b>				
Observed crime prevention strategies	3.55	1.10	0.261**	0.000
General satisfaction with personal safety	3.29	0.67		
<b>Correlation of crime prevention strategy and level of worry about crime victimization</b>				
Observed crime prevention strategies	3.55	1.10	-0.023**	0.000
Level of worries about crime victimization	2.58	1.08		

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

samples show a significant positive weak correlation with  $n = 401$ ,  $r = 0.21$ ,  $p(0.000)$ . The knowledge of crime prevention strategy and the general satisfaction with personal safety shows a weak positive correlation with  $n = 401$ ,  $r = 0.261$ ,  $p(0.000)$ . On the association of knowledge of crime prevention strategy and level of worry about crime, victimization shows a negligible inverse correlation with  $n = 401$ ,  $r = -0.023$ ,  $p(0.000)$ .

## CONCLUSION

This study focused on assessing the security and safety perceptions of residents in Zamboanga del Sur province in the Philippines using the KAB (Knowledge, Attitude, Behavior) model. The results indicated that the community had a reasonable understanding of crime prevention measures, largely due to the

efforts of the local police department. The presence of police significantly increased public awareness about crime prevention. The study also found that residents considered the province to be safe overall, although unattended goods and belongings were moderately safe. The risk of crime was perceived to be higher when individuals were alone at night or in less supervised locations. However, personal victimization was not a significant concern for individuals, but they were worried about their family members' safety. The study highlighted the importance of crime prevention strategies in improving safety perceptions and reducing worry and crime victimization. Increasing the efforts in crime prevention was suggested as a way to enhance the community's sense of security. The study recommended that authorities in the province should maintain a strong presence and activity in the

community to improve safety and security while reducing fear of crime. However, the study's limitations included the use of an online survey without detailed respondent profiles. Further research incorporating crime rates, crime prevention strategies, and additional variables was suggested.

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*Review Article*

## **A Literature Review of Low-Carbon Urban Tourism Indicators and Policy**

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### **ABSTRACT**

Low-carbon tourism (LCT) should be promoted in the development of the tourism sector, particularly in urban tourism, associated with the issue of high carbon dioxide emissions from human transportation-related activities and environmental pollution. Unfortunately, until today, there are still no specific guidelines for developing LCT in urban areas on the implementation or assessment criteria for determining the low carbon level. In consequence, the goal of this article is to discuss low-carbon indicators and policies used in the development of urban tourism. We identified 159 low-carbon indicators through content analysis, after reviewing reliable resources from four journal articles and a government policy paper validated using qualitative methods. Some suggested strategies

and policies for LCT activities, actions and cooperation from the authorities and residents in implementing LCT as a new tourism development model. The results can be used globally as a basis for the formation of policies and studies related to LCT in urban areas.

*Keywords:* Carbon dioxide, low-carbon, low-carbon indicators, policy, urban tourism

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## INTRODUCTION

Tourism development is proven to have advantages and disadvantages. The advantages include promoting economic and infrastructure development, creating various employment opportunities, providing economic incentives for a place to preserve, maintain, and regenerate the environment in urban and rural settings, cross-cultural, and promoting the advantages of the area (Comerio & Strozzi, 2019; Mayer & Vogt, 2016). The disadvantages of tourism include environmental damage, cultural clashes, low wages, low-skill workers, seasonal fluctuations, inequitable funding, foreign poaching, and tourism reliance (Postma & Schmuecker, 2017). The thriving and sustainable tourism industry has already demonstrated its ability to contribute to socioeconomic development, benefiting local communities and tourists. Tourism has the potential to have a positive impact on the environment if environmental protection and conservation measures are implemented. Therefore, tourism and the environment have a complex relationship because many tourism developments and activities have a detrimental effect on the environment, gradually destroying environmental resources. For example, constructing tourism infrastructures such as airports, roads, hotels, shops, restaurants, and other facilities adversely or indirectly affects the environment. The natural environment and manufactured elements need to be cared for and preserved for the benefit of the tourism industry and to create healthy living for people. Tourism development

must involve stakeholders, including state governments, district and local community planning, and economic development to create sustainable tourism activities (Siti-Nabiha et al., 2008). Consequently, efforts to promote low-carbon tourism (LCT) and a sustainable environment globally are necessary to maintain the tourism industry as a key industry for the long term (Tang et al., 2018).

LCT is a mechanism for achieving maximum travel experience with new travel planning for the tourism industry and achieving economic, environmental, and social benefits for all communities by reducing tourism activities that contribute to carbon emissions (Luo et al., 2016). Activity clusters in the travel and tourism sector contributing to carbon emissions include water and land transportation, accommodations, and other tourism activities. Each cluster contributes direct and indirect greenhouse gas (GHG) emissions to the environment. Most carbon dioxide emissions are contributed by tourism transport (75%), followed by accommodation and catering (21%) and tourism activity (4%; Tang et al., 2018). In an earlier study, the Organisation for Economic Co-operation and Development (OECD, 2010) estimated that the tourism industry contributes 5.3% of global anthropogenic greenhouse gas emissions. Direct carbon emissions are from primary sources, such as transportation that uses fuel and energy, electricity or gas consumption for the restaurant and accommodation sector, and other tourism activities. Meanwhile, indirect

carbon emissions are not produced from immediate tourism activities but from other sources, such as manufacturing processes, infrastructure development, airline offices, or travel agencies, which are indirectly involved in tourism activities (Kitamura et al., 2020). These indirect carbon emissions need to be accounted for and addressed when calculating the tourism industry's carbon footprint, as its effects can also lead to high emissions (Ya-Yen, 2019). Thus, new tourism approaches in construction and planning are necessary to conserve the environment and develop a city.

Several research approaches on LCT are recorded in the literature (Chiesa & Gautam, 2009; Fang, 2011; Han & Li, 2021; Huang & Deng, 2011; Kitamura et al., 2020; Mao et al., 2022; Shi & Peng, 2011; Thongdejsri et al., 2016; Xiong, 2017; Yang, 2015; Ya-Yen, 2019). However, limited guidelines are available for reference in Low-Carbon City (LCC) development. These include the Low-Carbon Cities Framework (LCCF) by the Ministry of Energy, Green Technology and Water (Kementerian Tenaga, Teknologi Hijau dan Air [KeTTHA], 2017) and Low-Carbon Society Blueprint for Iskandar Malaysia 2025 (UTM-Low Carbon Asia Research Centre, 2013). Throughout the literature, there are no specific guidelines on developing LCT in urban areas for the implementation process and assessment criteria to assess the level of low-carbon practices.

Thus, this article aims to identify low-carbon indicators and policies for LCT, including the activities, actions,

and cooperation from the authorities and residents by going through the implementation process of LCT as a new tourism development model focusing on an urban area. The study suggests a list of critical low-carbon indicators to serve as a platform for policy development and further research on LCT in industrial sub-sectors globally. The findings can help future studies identify a comprehensive framework for developing successful LCT destinations and serve as a guide for LCT development, particularly in urban areas. This research also can be seen as an extension of the existing framework, such as from a low-carbon city that allows for an urban tourism context. The article's contribution also could pave the way for systematic LCT management that applies to large-scale urban destinations.

## Literature Review

**Definition of Urban Tourism.** Increasing demand for urban tourism has begun over the past few decades. Urban tourism refers to activities conducted in areas with extensive amenities, such as transportation, hotel infrastructure, and events (Kitamura et al., 2020; Razali & Ismail, 2014). According to H. N. Ismail (2016), the main important context for urban tourism is to develop large-scale infrastructure, especially airports, transportation systems, and indoor accommodation. In Malaysia, such infrastructure can be seen in Kuala Lumpur and Penang, which have major airports. In addition, highway development increases rapid inter-city transportation.

Two key factors influence the development of Malaysia's urban tourism (H. N. Ismail, 2016) as follows:

1. People awareness:  
Awareness of urban conservation is important to all parties, including governmental and non-governmental organisations and tourists.
2. Promote tourism products and services:  
Diversify tourism products and services to build an identity or image of tourism in Malaysia.

According to Hairul et al. (2003), Malaysian urban tourism can be divided into two stages: after independence in 1957 and after the 1990s. Following the country's independence in 1957, several cities served as a gateway for international tourists, as a point of distribution or connection to tourist destinations throughout the country, as a national symbol, as company and government headquarters, and as a location for business and diplomatic interactions in meetings and communications. Tourism became a rapidly growing industry in Malaysia after the 1990s. The main images promoted to attract international tourists are culture and nature. At the time, the government prioritised the preservation of historic buildings in the city as a tourist attraction. Furthermore, the government has broadened the city's tourism offerings to include events such as meetings, incentives, conferences, and exhibitions. Following

the 2000s, the notion of urban tourism in Malaysia can be divided into two major areas. Kuala Lumpur urban tourism focuses on modern urban tourism products. It is seen in the growth of amenities, such as luxury hotels, shopping malls, sports centres, MICE, and entertainment. Penang, Malacca, and Kuching focused on urban tourism based on culture and history because the cities were founded during colonial times. Hence, the produced product is displayed at galleries, museums, souvenir stores, boutique hotels, and visitors. Urban conservation and heritage tourism were introduced at potential centres such as Malacca, Penang, and Kuching to support the efforts to preserve historical and cultural heritage. In comparison, the main tourism activities in Kuala Lumpur are shopping, MICE (meetings, incentives, conferences, and exhibitions), leisure, and mega-events. Many other important elements attract people to travel to the city.

According to Ruetsche (2006), urban tourism elements in large cities fall into three categories (Figure 1): primary, secondary, and supplementary. The primary or key elements provide the main reason tourists visit the city, which is driven by the activity place factor, consisting of cultural-based activities facilities, such as museums and art galleries, concert halls, and nightclubs. At the same time, physical characteristics, such as historic street patterns, buildings, monuments, parks and green areas, and others, can entice tourists to visit the city. The secondary and supplementary elements support the

primary activities in providing provision for complete facilities and amenities. These include accommodation and shopping malls and the function of additional elements, such as tourist information and transportation facilities, that promote the successful development of urban tourism. The element of city tourism is important not only to boost the number of visitors but also to stimulate the economy and foster positive effects on the image of a city.

Many Malaysian cities have tourism products, especially those rich in history and heritage and with a multicultural society and famous tourist destinations. The city of Malacca is a fitting example. Tourism products are developed for several

population centres, including Baba Nyonya, Malay, Portuguese, and Chitty. Tourism in the city has provided them with the opportunity to engage in entrepreneurship, which has improved their socioeconomic status. Previously, several of them worked in tertiary sectors unrelated to tourism before transitioning to jobs in the tourism business, such as tourist guides, travel agencies, hotels, and transportation. For policymakers, urban tourism is an economic resource that drives urban regeneration to reinvigorate life in historic and often declining urban areas (Rogerson & Rogerson, 2014).

Besides creating employment opportunities and expanding economic resources, urban tourism enhances the

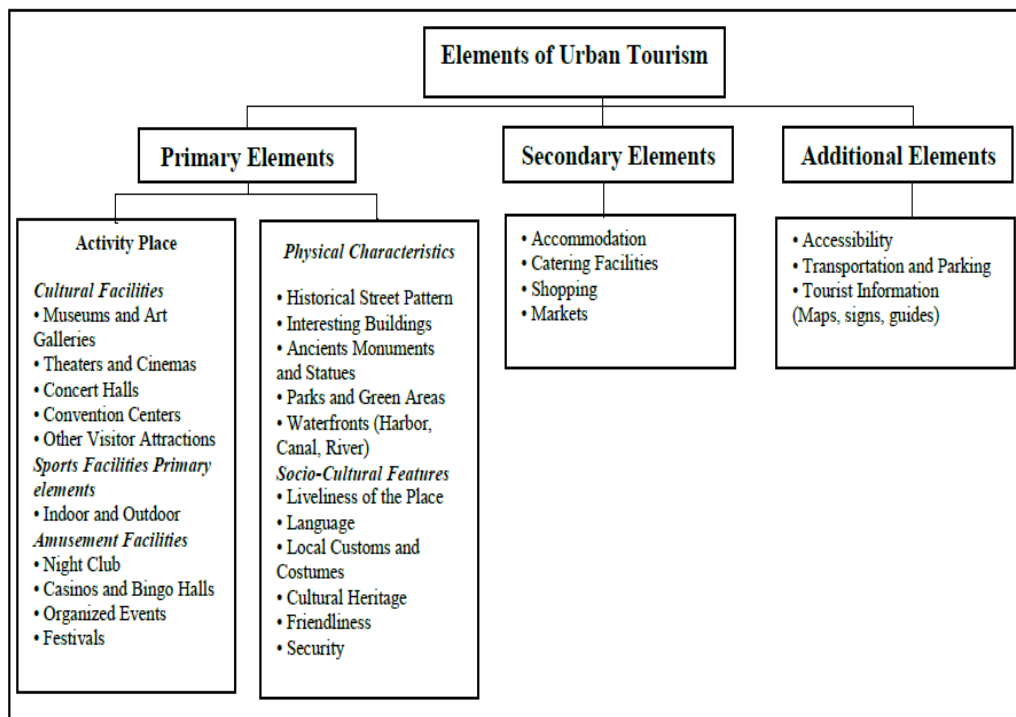


Figure 1. Elements of urban tourism

Source: Ruetsche (2006, p. 2)

area's image, physicality, and environment. A refurbished city image can attract more investors, creative industries, and talented individuals to increase the economic level and development of the city. Thus, urban tourism development is an important tool for economic growth, job creation, promotion of places, and reshaping the city's image, which helps create a national identity attractive to foreign tourists.

Maintaining cultural assets in urban locations presents several issues. The first is a fund to manage the historic structure. If done by an individual, maintaining a structure is expensive. Government agencies or private organisations typically grant these monies. Second, educate stakeholders on the significance of historical structures and traditional customs in attracting tourists. They must be clear about the goals and objectives of preservation to protect the authenticity of the building's design and culture. Conflicts of interest between stakeholders are common, resulting in the inadequate implementation of the preservation of structures and cultures. Third is the government's role in determining development decisions in a city. Conflict of interest, whether profit or maintenance, frequently arises, causing many historic urban places to be sacrificed for development reasons. Fourth is vandalism among tourists when visiting urban cultural attractions. They damaged some monuments by scratching, painting, and stealing (N. Ismail et al., 2014).

Razali and Ismail (2014) conducted a study that critically reviews indicators

for measuring sustainable urban tourism development in Malaysia. The study's findings indicate that determining the contribution of urban tourism to the economy and development of the local community is difficult due to the various disciplines that obscure the existence of urban tourism as an independent sector. This indicator does not accurately reflect the level of achievement of urban tourism activities, and the economic term is inappropriate. Since the concept of sustainable tourism was introduced, the role of indicators in measuring economic and social benefits has grown in importance. Hence, urban development must also be monitored with appropriate indicators. The goal is to assess and track changes in the city's economy to track progress toward sustainable development. As a result, identifying and measuring the entire range of environmental, social, and economic impacts interconnected in tourism development and obtaining accurate information for responsible decisions is central to the debate on developing urban tourism indicators. Several approaches have been developed in the Malaysian context, even though the indicators are not directly comparable.

### **Low-Carbon Tourism and Urban Tourism Development.**

The concept of LCT was formally proposed in a report on low-carbon travel and the tourism industry at the World Economic Forum in May 2009 (Huang & Deng, 2011). However, the idea of LCT was sparked following the proposal of a low-carbon economy concept in "The

Energy of Our Future” by the British in 2003 (Huang & Deng, 2011). The concept of LCT can improve living standards by consuming fewer natural resources, reducing environmental pollution, and positively impacting the economy. Malaysia introduced the concept of sustainable development in 1970 in the Seventh Malaysia Plan by adopting short-term and long-term planning, which focused on sustainable development (Othman & Pereira, 2005). In addition, several government agencies also supported the low-carbon expansion efforts. The KeTTHA, for example, issued guidelines for the Low-Carbon City Framework (LCCF). In line with the Sustainable Development Goals (SDGs), the LCCF guidelines are the national framework and assessment system for sustainable urban development.

Low-carbon cities address the problem of carbon emissions by controlling and reducing total carbon emissions in all sectors involved to achieve better quality and healthier lifestyles. However, urban carbon emissions must be reduced to achieve this goal, and the city’s low-sustainable economy can be enhanced. LCT is one key to achieving this objective. Based on the Green Technology Master Plan (GTMP), there are six key sectors (manufacturing, energy, building, waste, transportation, water) and six strategic thrusts (promotion and awareness; market enablers; human capital development; research, development, and commercialisation; institutional framework) that can be addressed (Ministry of Natural Resources & Environment [NRE], 2015). However, the growing

demand for travel to the city covers many purposes, which include running businesses, attending seminars and conventions, cultural matters, and entertainment. A wide variety of attractions offered as tourist destinations make it unique to visit the city while attending to official business or formal matters. The uniqueness of urban tourism offers city-based diverse and heterogeneous cultural, architectural, technological, social, and natural experiences and products other than the long-established nature-based rural tourism in rural and natural settings. Based on Cave and Jolliffe (2012), urban tourism comprises the following:

1. Primary elements: elements that attract tourists to a particular place, such as sports facilities, cultural facilities, physical characteristics, amusement facilities, and sociocultural features.
2. Secondary elements: elements that support and complement primary tourism, such as transportation or services required by tourists at tourism destinations—for example, accommodation, catering facilities, shopping, and the market.

Many studies were conducted on LCT in urban destinations. A case study in Chiang Mai, an urban tourist destination in Northern Thailand, has identified the development of non-motorised transportation (NMT) systems to reduce emissions (Kumar et al., 2016). Several types of NMTs are introduced, including walking, cycling,

small-wheeled transport, low-emission or battery-powered cars, and others. This sustainable urban tourism (SUT) project initiative discovered that NMT could reduce 230–570 tons of CO<sub>2</sub>-eq per year by replacing between 535,820 and 1,339,550 kilometres of mileage traversed by local diesel-powered vehicles if promoted in popular urban attractions such as the Three King Monument in Thailand. NMT provides flexible urban transportation options for visitors while simultaneously reducing the percentage of GHG emissions resulting from traditional transportation.

In addition, the garden house concept is another initiative to reduce carbon emissions in urban areas. According to Kumar et al. (2016), this concept has been promoted in the small town of Hue, Vietnam, as a tourist attraction since 2002. Garden houses can lower GHG emissions in various ways, including carbon's photosynthetic absorption. In addition, household food waste is recycled through composting or animal feed. This process can reduce the number of domestic animals, thus reducing the amount of domestic waste that needs to be disposed of. The various products the garden house produces, such as fruits and vegetables, can reduce emissions from ambient transportation while increasing local income. Nevertheless, the garden house approach requires strong collaboration between residents, the government and the active involvement of relevant stakeholders to ensure that the initiative can significantly contribute to urban tourism development.

Urban waste management can also substantially contribute to LCT efforts. Obersteiner et al. (2021) suggested several potential strategies to lower carbon footprint through waste management, including efficiently controlling food waste, reducing plastics usage, and sorting and recycling waste. The strategies on GHG emissions were estimated to save between 4 and 189 kg of CO<sub>2</sub>-eq per 1000 visitors based on the waste management system practised. However, these strategies require strict implementation of waste segregation to support sustainable development efforts. In addition, the use of plastics for packaging should be reduced and replaced with products or other alternatives that are more environmentally friendly and biodegradable or recyclable. Waste management in urban tourist spots, including bio-wastes, must be considered and addressed with practicality and scalability to reduce carbon footprint and save the earth from further pollution (Kitamura et al., 2020).

The United Nations Development Programme (UNDP; “Goal 11: Make cities inclusive”, 2015) predicted that by 2030, 60% of the world's population would migrate and live in city areas. The tourism sector has become one of the critical elements in urban development policy, as it is a key component of economic, social, and urban geography (Mao et al., 2022). In this regard, LCT can contribute to meeting the 17 Sustainable Development Objectives, particularly Goal 11, which is to provide peaceful, inclusive, sustainable, and resilient cities and human settlements (“Goal 11:

Make cities inclusive”, 2015). However, the development and management of sustainable tourism in the city require a multi-stakeholder and multi-level approach apart from the full cooperation of the administration and tourism agencies, including the private sector, local communities, and tourists. Thongdejsri et al. (2016) and Mao et al. (2022) revealed that a key factor in the success of LCT is the cooperation of business owners, local people, and stakeholders, as well as the relevant government agencies. The development of eco-tourism indicators should therefore focus on the measurement, evaluation, and monitoring of efforts needed to reach the level of LCT standards and to gauge their effectiveness.

**Policy in Low-Carbon Tourism.** In facing globalisation and challenges in the tourism industry, various aspects need to be considered that require the support of all stakeholders, especially in formulating relevant policies. Cooperation from all government departments is crucial to find solutions to every problem related to tourism issues for the improvement and development of the industry towards a sustainable approach. Therefore, LCT’s policy development and implementation efforts should encompass comprehensive principles and consider every element involved. Recent studies have identified several low-carbon policies (Han & Li, 2021; Mao et al., 2022; Tan et al., 2017). Further research is required to identify a comprehensive framework for developing successful LCT destinations.

Among the important elements in ensuring the effectiveness of policy implementation is coherence and consistency in policy planning and application between all levels of government. Besides governments, other related industries, communities, and stakeholders also need to take part in developing and defining the direction, identity, vision, and mission of long-term tourism development by incorporating elements of sustainable concepts in the tourism sector. Hence, the discussion on the strategies and policies of the LCT concept will be elaborated on next.

## METHODS

This study employed a qualitative and content analysis technique to analyse and interpret all technical reports, policy papers, action plans, and relevant literature. A literature search was conducted using leading electronic journal databases (Science Direct and Scopus) using five related keywords: tourism development, carbon dioxide, LCT, low-carbon indicators, and LCT policy. A content analysis develops a list of indicators for LCT strategies and policy in urban tourism development. Forty-five articles were reviewed, but only a few were concerned with low-carbon indicators, mainly from Chinese sources (Table 1). The articles reviewed were on low-carbon urban tourism published between 2006 and 2022, comprising journal papers (24), books (2), technical reports (9), thesis (1), conference proceedings (7) and forum (2). The papers are published in 19 journals (Table 1). From these sources,

only a few articles were devoted to low carbon indicators, as reported in four article journals and one government policy paper, to assess the development of LCT. This study identified 159 reliable and validated items of low-carbon indicators through qualitative methods (Table 2). Three critical aspects can be highlighted from the indicators: economic, environmental, and social. Some policies in urban tourism development were listed, including strategies for LCT activities, actions, and cooperation from the authorities and residents, constituting a new tourism development model for the LCT. The findings of this study can help future research formulate a comprehensive framework for developing successful LCT destinations and serve as guidelines for developing LCT, particularly in urban settings.

Table 1  
*Titles of resources used in the literature*

No.	Title of selected resources	Number of articles
1.	Technical report	9
2.	Tourism Economics	1
3.	Book	2
4.	Sustainability	3
5.	Forum	2
6.	Conference Proceedings	7
7.	Thesis	1
8.	Advances in Materials Science and Engineering	1
9.	Energy Procedia	4
10.	ASEAN Journal on Hospitality and Tourism	1
11.	Journal of Hospitality & Tourism Research	1
12.	Frontiers in Environmental Science	1
13.	<i>Zeitschrift für Tourismuswissenschaft</i>	1
14.	Environmental Development	1
15.	Journal of Tourism Futures	1
16.	Sustainable Tourism	1
17.	Urbani Izziv	1
18.	Lex ET Scientia International Journal	1
19.	Applied Energy	1
20.	Advances in Meteorology	1
21.	Open Geosciences	1
22.	Journal of Travel Research	1
23.	The Open Cybernetics & Systemic Journal	1
24.	Journal of Cleaner Production	1
<b>Total</b>		<b>45</b>

RESULTS

LCT is the proposed consequence of the eco-tourism concept, which is an introduction to achieving sustainable tourism targets. Several factors are necessary to support this idea, including knowledge and

understanding of LCT and cooperation from local authorities, residents, traders, and tourists for the long-term development of sustainable urban development (Huang & Deng, 2011; Pongthanasawan et al., 2018; Wu et al., 2017). J. Zhang and Zhang (2020) stated the three critical aspects crucial for LCT indicators in urban destinations: low-carbon economic subsystems (LCT product, low-carbon input, tourism development), low-carbon environments subsystems (Low-carbon environment, Ecological environment, Low-carbon facilities), and low-carbon social subsystems (Low-carbon idea and Low-carbon management). The indicators were identified using the fuzzy Delphi method. T. H. Lee and Jan (2019) identified 40 items comprising seven constructs: sensory experience, affective experience, learning experience, sociocultural experience, behavioural experience, escapism experience, and prestige experience. These items were used to evaluate the LCT experience (LCTE) from a nature-based tourist perspective. According to Pongthanasawan et al. (2018), there are two components to be considered for LCT monitoring, namely low-carbon cities and economic development, as presented in Table 2. There are ten low-carbon city criteria referenced from the Low-Carbon City Indicator (LCCI) framework, Carbon Footprint Indicator (CFI), and Low-Carbon City Development Indicator (LCCDI). In addition, economic development involves seven criteria that focus on general socioeconomic indicators.

Wu et al. (2017) provided four factors with 16 assessment items to gauge the emotional value of LCT, experience value, functional value (profit and loss), and functional value (quality and quantity). They also suggested 18 low-carbon travel behaviours used to identify the willingness of tourists and residents to take part in LCT. The individual's behaviour can be internally influenced, such as awareness, attitude, and ability to change. In addition, external features such as society, culture and living environment may also influence changes in individual attitudes. Behavioural factors must also be accounted for and assessed to ensure the effective implementation of LCT.

The Ministry of Energy, Science, Technology, Environment, and Climate Change has also developed the Low-Carbon City Framework (LCCF) to assess low-carbon city development (KeTTHA, 2017). LCCF comprises four elements: urban environment, urban transport, urban infrastructure and building. It also contains 13 performance criteria and 35 sub-criteria which can assist in developing LCT in urban development. The LCCF may use as the benchmark of low-carbon implementation in urban tourism. Table 2 shows the elements to evaluate LCT in an urban tourist area. The low-carbon indicators are based on four article journals and one government policy paper from the literature. A total of 159 indicators were determined as suitable for constructing LCT in urban destinations.

With reference to Table 2, all the elements collated are potential components of indicators for LCT development.

However, further testing is necessary to ensure validity before developing the LCT framework. In addition, detailed tests need to be conducted to identify indicators to be implemented according to categories such as region, climate, and sociocultural and corresponding with district-level activities that are to be developed as LCT centres. Further studies are recommended to overcome the limitations of this study to address the implications of LCT from international and global perspectives.

A total of 159 indicators were identified that can be developed, improved, and used to evaluate the effectiveness of LCT implementation in the city centre. These indicators will become the primary guidelines for constructing low-tourism indicators in the Malaysian context. Based on these LCT elements, we strongly encouraged future studies to examine and identify in more depth the relationships between indicators and influences on the environment using a long-term approach to be implemented in Malaysia.

From the literature review, 159 indicators were identified that can be used as guides in developing LCT. They cover all aspects of LCT activities based on three past studies and the LCCF framework. LCT features complement one another, which is likewise reflected in the indicators. Among these aspects include economic, environmental, social, experience (affective experience, sociocultural experience, behavioural, escapism, and prestige), values (emotional, experience, functional), behaviours (public and residents), transportation, infrastructure

and building construction. These selected indicators represent every important aspect necessary for developing LCT. They will be tested further for validity and used as a benchmark for developing guidelines for expanding LCT in urban settings.

J. Zhang and Zhang (2020) constructed 33 indicators to evaluate the development of LCT in urban tourism destinations, which included LCT in economic, environmental, and social subsystems. The formulated evaluation model can transform LCT's integrated qualitative and quantitative value to drive its development. T. H. Lee and Jan (2019) developed a scale to evaluate LCT experience (LCTE) from the perspective of a nature-based tourist, comprising seven constructs: sensory experience, affective experience, learning experience, sociocultural experience, behavioural experience, escapism experience and prestige experience. We can use the LCTE scale to guide tourists and tourism managers to reduce carbon emissions and potentially contribute to sustainable tourism development.

Wu et al. (2017) focused on behavioural changes among consumers and society regarding LCT in China. Factor 1 is the emotional value which consists of five items that identify the emotional satisfaction of tourists towards LCT products and services. Factor 2 is the experience value, which includes five items on experience satisfaction and tourist satisfaction towards LCT. Factor 3 is called functional value (profit and loss), encompassing three items concerning the negative feelings of

Table 2

*Indicators of low-carbon tourism in urban development*

References	Indicators	Criteria of indicators
J. Zhang and Zhang (2020)	1. LCT economic subsystem	1. Proportion of green hotel
	i. LCT product	2. Proportion of green catering enterprise
	ii. Low-carbon input	3. Proportion of green building
	iii. Tourism development	4. Low-carbon shopping
		5. Proportion of low-carbon transport
		6. Proportion of low-carbon tourist attractions
	2. LCT environmental subsystem	7. Low-carbon investment rate
	i. Low-carbon environment	8. Low-carbon marketing
	ii. Ecological environment	9. Tourist growth rate
	iii. Low-carbon facilities	10. Tourism congestion index
		11. Tourism carbon intensity
		12. Tourism carbon footprint
		13. Renewable energy usage
		14. Tourism energy intensity
	3. LCT social subsystem	15. Ratio of green space
	i. Low-carbon idea	16. Air pollution index
	ii. Low-carbon management	17. Surface water quality
		18. Noise pollution level
		19. Trash management
		20. Sewage treatment
		21. Ecological environment monitoring system
		22. Public infrastructure construction for low carbon
		23. Water-saving technology adoption
		24. Low-carbon guiding sign
		25. Usage of low-carbon material
		26. Education on low-carbon environment
		27. Communication of low carbon
		28. Carbon literacy of residents
		29. Carbon literacy of tourist
		30. Carbon literacy of tourism enterprise
		31. Low-carbon policy & legislation
		32. Special plans for LCT
		33. Low-carbon technology

Table 2 (*Continue*)

References	Indicators	Criteria of indicators
T. H. Lee and Jan (2019)	Sensory experience	1. This low-carbon travel experience had a powerful impact on my visual and other senses.
		2. I find this LCT experience interesting in a sensory way.
		3. I feel real harmony during this low-carbon tour.
		4. I felt a proper sense of harmony during this LCT experience.
		5. The landscape was very charming in this LCT experience.
		6. I associated sights, smells, sounds, tastes, and textures with this LCT experience.
		7. The overall design of this activity can arouse tourists' interest in this LCT experience.
	Affective experience	8. This LCT experience induced feelings and sentiments.
		9. This LCT experience was cheerful.
		10. This LCT experience was enjoyable.
		11. This LCT experience was comfortable.
		12. This LCT experience was exciting.
		13. I felt a sense of awe during this LCT experience.
		14. This LCT experience was relaxing.
		15. This LCT experience was interesting.
		16. I engaged in much thinking when I participated in this LCT experience.
		17. I reflected on new ideas about animals and their environments.
		18. I am being educated through this LCT experience.
		19. I discussed new information with my companions.
		20. It was an exploratory experience.
		21. It was a new cultural experience.
		22. I found a new perspective on my life.
		23. I reflected more on myself.
		24. I experienced different things on this trip.

Table 2 (Continue)

References	Indicators	Criteria of indicators
Pongthanaisawan et al. (2018)	Sociocultural experience	25. I interacted with people at the destination.
		26. I understood the unique characteristics of local people at the destination.
		27. I had a good impression of the local people.
		28. The locals at the destination are friendly.
		29. I get to meet new people and do new things.
	Behavioural experience	30. I engaged in physical actions and behaviours during this LCT experience.
		31. I experienced LCT.
	Escapism	32. I completely escaped from my daily routine.
		33. I experienced something new.
		34. I am involved in this LCT experience.
		35. Taking part in this LCT experience made me feel as if I was in another world.
		36. While I was playing, I forgot that time was passing.
	Prestige	37. I felt I belonged in the environment.
		38. This LCT helps me make a good impression on others.
		39. With this LCT experience, I could convey social status.
		40. I am proud to pay attention to environmental issues by participating in this LCT experience.
	Economic development	1. The population size
		2. Density of population
		3. Per capita income
		4. The number of visitors
		5. The number of newly registered businesses (local companies)
		6. The tourism-related industry's gross provincial product (GPP)
		7. The proportion of foreign and domestic capital investment
	Low-carbon city development	8. Per capita CO <sub>2</sub>
		9. The intensity of energy (energy per capita)
		10. The percentage of renewable energy that is used.
		11. Per capita water use
		12. The amount of public green space
		13. Per capita solid trash generation
		14. Waste-to-energy ratio
		15. Recycled waste share
		16. Cars per capita vs public buses
		17. Ownership of private vehicle (per capita car/motorcycle)

Table 2 (Continue)

References	Indicators	Criteria of indicators
Wu et al. (2017)	Emotional value	1. Low-carbon behaviour makes me leave a good impression on others.
		2. Low-carbon behaviour lets me win much social affirmation and praise.
		3. Low-carbon behaviour sets up a positive personal image.
		4. Low-carbon travel behaviour brings about self-identity.
		5. LCT behaviour can bring me an enjoyable feeling.
	Experience Value	6. I want to experience changes in the LCT community.
		7. Low-carbon behaviour makes travel/service more fulfilling.
		8. We could learn new things by participating in the LCT community.
		9. LCT is closer to nature.
		10. LCT is exciting and fresh for me.
	Functional value (Profit and loss)	11. The service of low carbon is worse than the quality of general service.
		12. LCT community service projects are fewer.
		13. Low-carbon travels community services prices are high.
		14. The low-carbon travel community makes no sense to me.
	Functional value (Quality and quantity)	15. LCT is simple to practice.
		16. Low-carbon service lets me rest assured.
	Public's low-carbon travel behaviours	17. Choose locally-produced food or products
		18. Remove rubbish from tourist sites
		19. Choose low-carbon modes of travel (e.g., hiking, climbing)
		20. Choose environmentally friendly accommodations
		21. Use recycled daily items
		22. Buy tourism products with simple packaging
		23. Bring your food and water
		24. Refuse to use disposable tableware
		25. Refuse high energy consumption appliances (e.g., air-conditioning).
		26. Take the rest food
	Residents' low-carbon travel behaviour	27. Provide recycled tableware
		28. Use of local, seasonal ingredients
		29. Use environmentally friendly recycled construction materials
		30. Refuse to use or set energy consumption appliances and equipment
		31. Increase vegetation coverage
		32. Waste classification and recycling
		33. Use clean energy (solar energy, methane, rainwater)
		34. Provide propagandise of low-carbon tourism for tourists

Table 2 (Continue)

References	Indicators	Criteria of indicators
KeTTHA (2017) Parameters of Low-Carbon Cities	Urban environment	<b>A. Site selection:</b>
		1. Development within the defined urban footprint
		2. Infill development
		3. Development within transit nodes and corridors
		4. Brownfields and greyfield redevelopment
		5. Hill-slope development
		<b>B. Urban form</b>
		6. Mixed-use development
		7. Compact development
		8. Road and Parking
		9. Comprehensive pedestrian network
		10. Comprehensive cycling network
		11. Urban heat island (UHI) effect
		<b>C. Urban greenery and environmental quality</b>
		12. Preserve natural ecology, water body, and biodiversity
		13. Green Open Space
		14. Number of Trees
	Urban transportation	<b>A. Shift Transport mode</b>
		15. Single Occupancy Vehicle (SOV) dependency
		<b>B. Green transport infrastructure</b>
		16. Public transport
		17. Walking and cycling
		<b>C. Clean Vehicles</b>
		18. Low-carbon public transport
		19. Low-carbon private transport
		<b>D. Traffic management</b>
		20. Vehicle speed management
		21. Traffic congestion and traffic flow management
	Urban infrastructure	<b>A. Infrastructure provision</b>
		22. Land take for infrastructure and utility services
		23. Earthwork management
		24. Urban storm-water management and flood mitigation
		<b>B. Waste</b>
		25. Construction and industrial waste management and flood mitigation.
		26. Household solid waste management
		<b>C. Energy</b>
		27. Energy optimisation
		28. Renewable energy
		29. Site-wide district cooling system
		<b>D. Water management</b>
		30. Efficient water management
	Building	<b>A. Low-carbon buildings</b>
		31. Operational energy emissions
		32. Operational water emissions
		33. Emission Abatement through retrofitting
		34. Building orientation
		<b>B. Community services</b>
		35. Shared facilities and utilities within the building

tourists towards LCT revenue. Factor 4 is the functional value (quality and quantity), which includes two items regarding tourist satisfaction with the quality and current quantities of low-carbon tourism. The study established that most visitors were not concerned about the environment and were oblivious to low-carbon activities. As such, guidance and knowledge on low-carbon appreciation should be nurtured in the community by changing operations and professional training to develop diverse and attractive low-carbon service patterns. Therefore, awareness, intention and practice of individual behaviour are critical elements that must be considered in an LCT economy.

To mitigate climate change and reduce CO<sub>2</sub> emissions, the Government of Malaysia has launched the National Green Technology Policy (KeTTHA, 2017). As a result, various sustainable development initiatives are developed where policies focusing on technology, solutions and roadmaps to reduce the impact of development on the environment are formulated (refer to Figure 2). The Green city policy development holistically offers long-term sustainability, with similar goals as sustainable cities, which comprises three principles of sustainable development, namely environmental, economic, and social perspectives. The Ministry of Energy, Green Technology and Water (KeTTHA) has developed a framework for low-carbon cities that drive the implementation of low-carbon development measures in cities and towns. In recognising the importance of measuring urban performance, particularly

its contribution to the country's carbon emission levels, the government is committed to reducing carbon emissions. KeTTHA has developed a framework for low-carbon driving in cities and towns and implementation of carbon reduction measures by introducing an evaluation system to measure and monitor the development of the Low-Carbon Cities Framework (LCCF) issued in 2011 (LCCF version 1) and 2017 (LCCF version 2). Figure 3 shows the summary of the LCCF criteria issued by the ministry.

The LCT shown in Table 2 identified all necessary indicators in developing urban LCT destinations. However, implementing the LCT development project depends on tourism practices, the population and the decision-makers in handling the problem of emissions produced by the population and industries. The focus, therefore, should not be solely on the tourism sector. Many other factors need to be considered in developing LCT management. Among these is the measurement of CO<sub>2</sub> emissions related to tourism, efforts to reduce CO<sub>2</sub>, policies, LCT knowledge and other factors contributing to carbon emissions in urban areas (J. Zhang & Zhang, 2020).

M. Zhang et al. (2021) adopted the low-carbon sustainability index method in a study of four selected Chinese cities. Results showed that all four cities failed the test for sensible low-carbon sustainability rules. They showed weak low-carbon sustainable development despite significant progress in capacity building in pollution control, wastewater treatment, major pollutants

removal, domestic waste treatment and disposal of hazardous waste. The cities faced significant challenges in using sustainable energy, offsetting CO<sub>2</sub> emissions and adopting nature-based solutions. In light

of these findings, this study can serve as a pioneer in creating systematic LCT management that can be expanded to large-scale urban destinations.

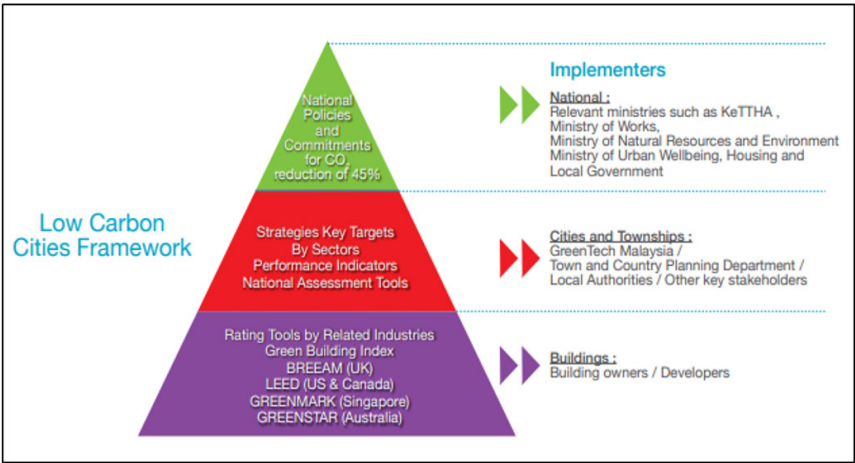


Figure 2. LCCF concerning national policies and rating tools  
Source: KeTTHA (2017)



Figure 3. Breakdown of performance criteria and sub-criteria of LCCF  
Source: KeTTHA (2017)

### The Policy of Low-Carbon Tourism Development

The low-carbon principle can be used in

adopting and proposing several policies in tourism development. According to Yang (2015), developing LCT involves

several steps, which include economic, technological, and social change. Additionally, the indicators must meet development objectives and eco-tourism requirements reflected in economic development, environmental protection, and legislation. Malaysia's energy consumption increased from 13 million cubic feet in 1990 to roughly 53 people one million cubic feet in 2013, with an average yearly growth rate of 6.3%. The GDP recorded an annual average growth rate of 5.7% over the same period (KeTTTHA, 2015). For Malaysia to sustain economic growth in the next decade, it must ensure its energy supply is sufficient to maintain growth productivity and economic competitiveness. Low-carbon efforts were emphasised in the *Tenth Malaysia Plan 2011–2015* (2010), although only a few resorted to using renewable energy sources. Much greater support from all relevant parties and stakeholders is thus needed for renewable energy to be utilised and promoted in the tourism sector to reduce the carbon footprint that is harmful to the environment.

Renewable energy has the potential to be commercialised as an alternative energy source in the resort and hotel development in Malaysia. For example, photovoltaic technology and wind energy can be introduced in tourism facilities, especially in island resorts on the peninsula's east coast (Darus et al., 2008). Wind turbines and photovoltaic panels can produce 74kW, which meets the daily electricity requirement for the resort facility. Renewable energy can meet the needs of tourism and local domestic

use. The relevant authorities and ministries should introduce policies that promote LCT destinations and attractions (Shi & Peng, 2011). Tang et al. (2018) suggested that in formulating a carbon tourism policy, several factors need to be considered, such as the level of social development, economy, and tourism resources according to region. Accordingly, the relevant government departments should formulate appropriate motivation, management, certification, and evaluation policies to develop more standardised LCT destinations.

W. H. Lee (2011) suggested three phases of development required as guidelines for developing green tourism resources: planning, construction and maintenance. In the planning phase, public facilities are encouraged to use new renewable energy such as solar, bioenergy, water, wind, fuel cells, ocean, waste and geothermal to reduce greenhouse gas emissions. Construction work during maintenance should use environmentally friendly structures to save energy and resources in planning, design, construction, maintenance and disposal. Environmentally friendly structures preserve the environment and improve human health and comfort. In the maintenance phase, low-carbon green events such as conferences, performances, and festivals. Hold a green event should also be supported. The source of greenhouse gas emissions must be identified and its impact reduced. Knowledge of this procedure needs to be made accessible to the public.

Various guidelines are provided by the Ministry of Energy, Science, Technology, Environment and Climate

Change (MESTECC) and the Ministry of Housing and Local Government (KPKT) for promoting low-carbon green events and reducing carbon footprints that could lead to climate change. Policymakers should thus introduce policies that encourage low-carbon construction in tourism attractions. J. Zhang and Zhang (2020) proposed several policies for LCT as follows:

1. Improve funding for low-carbon infrastructure by promoting low-carbon materials and labels in the tourism industry.
  2. Spread ideas on the importance of LCT development and improving low-carbon literacy. All parties, including tour operators, administrators, and workers of tourism agencies, should get proper training on low-carbon to create a low-carbon culture for the entire society.
  3. Enact relevant legislation and regulations to control and plan low-carbon development and promote low-carbon behaviour.
  4. Actively introducing low-carbon innovations and technologies in the tourism carbon sector, such as replacing energy with new sustainable energy sources (solar, wind, and hydropower).
- Based on research by Becken (2009), W. H. Lee (2011), OECD (2010), Shi and Peng (2011), Tang et al. (2018), and Yang (2015) on LCT development, some policies can be proposed for implementation, as follows:
1. Enhance synergistic effects by linking partial strategies to promote LCT.
  2. Strengthen community understanding and expand awareness of LCT business through education and public relations.
  3. Ease expenses caused by introducing green technology into the tourism business and improving sophisticated transportation systems with a low-carbon approach.
  4. Provide Principles of Comprehensive Representation standards to illustrate economic outcomes from LCT from each perspective according to the respective indicators of LCT.
  5. Combine indicators of Qualitative and Quantitative Evaluation so that it is valid and practical. Quantitative principles ensure aim and reasonable objectives, while qualitative principles solve various problems.
  6. Developing LCT based on dynamic and stable processes. First, economic, technological, and social change indicators must be considered. Second, strengthening indices ensures current LCT growth and summarises future development perspectives.
  7. Foster scientific use in selecting qualitative changes that need to be based on statements. For example, the power of eco-tourism, status, filtering, and other negative understandings and analyses.

8. Upgrade systems, indicators, and data for LCT assessment.
9. Provide an evaluation system that covers all design and LCT features, including macro and micro, according to their function.
10. Promote energy-efficient transportation to manage travel demand to ensure the safety of the transportation sector's short-term oil supply and various fuel supplies.
11. Increase allocation and research and development (R&D) in energy-efficient technologies, minimise carbon emissions, optimise utilisation and improve energy efficiency, especially for the tourism industry, using science and technology.
12. The government, including the administration division and the tourism department, should improve the management of LCT by effectively monitoring and managing tourist attractions for effective results.
13. Provide incentives for additional capital, technology, and more careful management to encourage the construction of LCT areas such as financial subsidies, tax incentives, and others.
14. Provide standardised assessment standards for LCT certification and evaluation as current industry-wide attractions, making it a future trend.
15. Draw general principles and minimum standards in the project process, including location selection, planning, construction, and maintenance.
16. Provide programmes to support workforce education, training, innovation, and development in LCT.

To succeed in LCT, it is paramount that individuals should increase their awareness of the positive effects and responsibilities of conserving the environment. The OECD (2010) embraced the importance of policies on LCT to raise awareness of employment potential, centred on low-carbon activities, in creating key growth opportunities for global employment in the future. Consequently, responsible parties need to study and introduce LCT standards and establish regulations on the use of carbon energy to encourage low-carbon practices in transportation, recreation areas, hotels, eateries, and entertainment venues. The development of LCT destinations can accordingly be fostered, such as the low-carbon construction of cities. In Malaysia, tourist destinations that promote LCT include Langkawi Island, Perhentian Island, Malacca City and Putrajaya. In sum, the existing low-carbon tourist spots can be improved based on proposed policies and guidelines for their development.

## DISCUSSION

Tourism activities contribute to carbon emissions into the atmosphere. According to OECD (2010) records, the tourism industry contributes as much as 75%

towards global greenhouse gas emissions, mainly from transportation. A study by Chen et al. (2018) found that from 2001 to 2015, transportation involving urban tourism activities was the major contributor to CO<sub>2</sub> emissions in China, amounting to over 72% of the total. Implementing a low-carbon economy is thus one alternative to curb the problem of carbon emissions. Sustainable efforts in curbing carbon emissions may simultaneously contribute towards energy savings and emission reduction on national and global scales. There have been many policy developments in the low-carbon economy over the years that have been implemented in China to green the tourism sector. From this perspective, it is similarly appropriate and necessary for Malaysia to establish a comprehensive policy and framework to realise the national goal of minimising carbon emissions and promoting low-carbon development in urban centres.

Malaysia announced the development of sustainable indicators in 1997 by introducing the Malaysian Sustainable Development Indicators (MSDI; Razali & Ismail, 2014). Since then, the country has produced many indicators as guides for sustainable development. The federal and state governments and non-governmental organisations, with different objectives and purposes, implement and develop these indicators. In the process, there are several frameworks issued to measure the development of low-carbon in urban areas, such as the Malaysian Urban Indicator Network (MURNInet) and the Malaysian Quality of Life Index (MQLI), Summary

of Environmental Statistics (CES), Low-Carbon City Framework (LCCF; KeTTHA, 2017; Razali & Ismail, 2014). Since the objective and scope of investigation differ, the indicators thus vary according to the pertinent scientists and institutes. These indicators mainly focus on the problems of the environment, society, infrastructure and building structures in urban areas. There are no specific indicators to measure carbon emissions within Malaysia's sustainable tourism context. The country already has many low-carbon city frameworks, which might suit low-carbon urban tourism development. Thus, policy formulation and development of LCT indicators are crucial for urban tourism development so that economic changes can be assessed and monitored to track sustainable tourism development. This study can be viewed as an extension of the existing framework on carbon measurement, such as from a low-carbon city making room for an urban tourism context.

LCT is an initiative that positively impacts the environment and is responsible for managing tourism. Consequently, increased awareness and knowledge of LCT must be communicated to all stakeholders, including the government, tourists and the public. This study aims to introduce the elements of accomplishing LCT to curb carbon emissions from various tourism activities, such as the management of hotels, transportation, dining, recreation, and entertainment venues. This study could stimulate subsequent trials for LCT destinations and assist in formulating

LCT guidelines, especially in urban areas. The results can contribute to constructing an LCT framework suitable for urban tourism activities and generating important information on the concept while contributing towards sustainable urban development.

## CONCLUSION

LCT requires joint efforts from the government, tourism sector and research faculty for tourism to grow efficiently, be energy-saving and be environmentally friendly. It proves that implementing LCT can help reduce carbon dioxide emissions and energy consumption while supporting efforts toward realising sustainable economic and environmental development. In addition, LCT offers a high-quality and sustainable tourism experience by reducing the impact of pollution and carbon emissions in all leisure activities, facilities and infrastructure.

Indicators were selected to assess the implications of LCT to ensure effectiveness in the implementation. A comprehensive LCT framework must be identified to address the relevant factors and criteria, including awareness, behaviours, policies, infrastructure, institutional systems and mechanisms at all levels.

An in-depth study of the methods and structure and the expansion of knowledge on the concept of LCT is also suggested since it may further improve the standard of the tourism sector. Studies on the effectiveness of LCT in reducing GHG emissions need to be enhanced to provide the impetus

for developing and promoting sustainable tourism while simultaneously saving the environment from worsening pollution.

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## **Identification of Constructs and Subconstructs of Teacher Classroom Assessment Literacy Instrument**

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### **ABSTRACT**

This study was conducted to identify constructs and subconstructs of teacher classroom assessment literacy instrument. Qualitative document analysis was conducted to identify the constructs and subconstructs used. This document covers previous research articles, modules, and standard documents used in conducting classroom assessments. The qualitative data are analyzed using the literature review system model with four thematic analysis phases. Four main themes or constructs of classroom assessment literacy are derived from the document analysis: Purpose, Measurement, Evaluation, and Use. These four themes are used as the basis for analyzing the Classroom Assessment Standard and Classroom Assessment Implementation Guide from the Ministry of Education Malaysia as the main reference of the study. Besides, four 21st-century assessment features, nine classroom assessment features, and five features of high-order thinking skills items are also included in the analysis as an added value in the constructs and subconstructs. Based

on the analysis, three subconstructs for the purpose component, seven for the measurement component, four for the assessment component, and five for the usage component are identified. All these findings are incorporated into the teacher's assessment literacy instrument.

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## INTRODUCTION

Assessment is any process of information observation to interpret students' performance through various ways or practices (Messick, 1989) and is considered a curriculum liaison that drives the learning process (Jing & Zonghui, 2016). Therefore, it needs to be planned and implemented well to benefit teachers and students, particularly in improving student achievement (Thomas et al., 2004). Thus, the Ministry of Education Malaysia (MoE) has outlined the guidelines for the implementation of effective assessment in the classroom, starting with the planning for teaching, learning, and assessment methods; implementing teaching, learning, and assessment; recording and analyzing student mastery; and reporting on students' level of mastery (Curriculum Development Division [CDD], 2019).

Teachers' ability, knowledge, and understanding of the concept and implementation of the basic procedures set out in this classroom assessment are defined as assessment literacy by H. Xu (2017) and Gotch and French (2014). It is also considered important because its effectiveness can influence an educational decision (Gotch & French, 2014), such as improving the quality of teaching and learning that drives expected achievement by measuring, analyzing, interpreting, and using student performance data to identify learning needs. Thus, conclusions can be made by stating that assessment literacy is an important relationship between assessment quality, teaching, and student

accomplishment, as emphasized by previous researchers (Ashraf & Zolfaghari, 2018; Mellati & Khademi, 2018; N. Muhammad et al., 2020; Zolfaghari & Ahmadi, 2016).

The importance of teacher assessment literacy has long been acknowledged and regarded as a requirement at all levels of education (Jawhar & Subahi, 2020). It is evident in related research that is ongoing until today (Edwards, 2020; Janesar et al., 2020) covering various fields (Tajeddin et al., 2018): language (Coombe et al., 2020), mathematics (Thronsdon et al., 2020), health (Hawkins et al., 2020) and chemistry (Muchtar et al., 2020), and providing a focus on assessing and understanding teacher assessment literacy (Jawhar & Subahi, 2020): teacher training and preparation levels (DeLuca et al., 2016; Mertler, 2003; Pastore & Andrade, 2019; Plake et al., 1993), classroom assessment (Chappius et al., 2012; DeLuca et al., 2015; Jawhar & Subahi, 2020; Y. Xu & Brown, 2016; Yamtim & Wongwanich, 2014), and the context of the latest assessment policy (Gotch & French, 2014). However, this study only seeks insight into teacher classroom assessment literacy (TeCAL).

Lack of assessment literacy affects not only the quality of assessment but also the quality of teaching and learning due to misinterpretations made by teachers (Pastore & Andrade, 2019). This misinterpretation drives the motive of this study, which acknowledges that TeCAL needs to be measured to determine the effect levels on the assessment approaches in education. Document analysis from the literature

review needs to be done to obtain the latest and accurate situation related to assessment literacy studies to ensure that the developed instrument becomes an appropriate tool to test the level of TeCAL.

Therefore, the main objective of this study is to develop the assessment literacy instrument for primary school teachers in the context of classroom assessment based on the constructs and subconstructs obtained through document analysis that had been conducted. It involves the system model of the literature review with three levels and four phases. Four constructs and 19 subconstructs have been identified with explicit operational definitions and utilized as the foundation for developing the teacher assessment literacy instruments for classroom assessment.

## METHODOLOGY

A qualitative approach is used in this study to analyze documents related to assessment literacy and classroom assessment. Bowen (2009) stated that the implementation of document analysis studies is an effective qualitative research method that incorporates systematized processes for analyzing

and reviewing documents obtained from printed and electronic sources. Same as other qualitative research methodologies, document analysis requires the data to be analyzed before being interpreted and given meaning and understanding in developing empirical knowledge (Corbin & Strauss, 2008). According to Burns and Grove (1993), the literature review is one of the sources that can increase the content validity of a study conducted. In this study, the system model of the literature review, as suggested by Gray et al. (2017), i.e., input, throughput, and output (Figure 1), is applied. The system model is divided into Input: Phase 1, Throughput: Phases 2 to 3, and Output: Phase 4.

Besides, Bowen (2009) also stated that various documents could be used in a systematic evaluation. However, in this study, only document analysis of previous research articles, standard modules, and official reference documents/manuals was conducted. All these electronic source documents are accessed and obtained online, provided the internet network is available. Furthermore, analytical procedures are implemented as suggested by Labuschagne

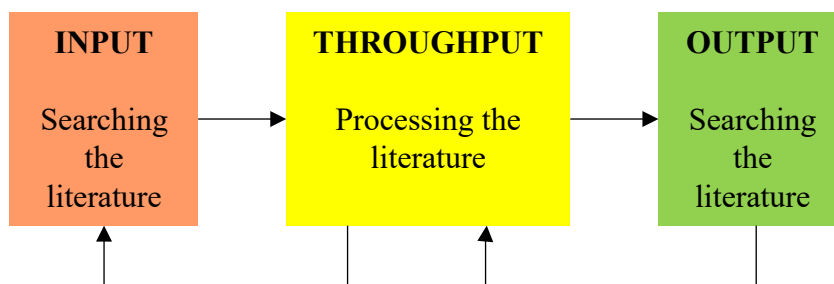


Figure 1. The system model of the literature review (Gray et al., 2017)

(2003), Linneberg and Korsgaard (2019), which include steps to finding and selecting documents before evaluating (understanding) and synthesizing the required data. These data are then compiled into themes or categories to be used as the main constructs and subconstructs in constructing the teacher classroom assessment literacy (TeCAL) instrument in this study. This study focuses only on the basic components of teacher literacy as a knowledge domain and does not involve other components.

## RESULT AND DISCUSSION

This study focuses on questions based on the objective of this study to identify constructs and subconstructs for primary school teacher assessment classroom literacy (TeCAL) instrument in the context of classroom assessment based on thematic analysis of the literature review. All the identified constructs and subconstructs are based on the domain knowledge of classroom classification literature using three levels with four phases as follows:

### Input Level

#### Phase 1: Familiarizing with the Data

At the input level, the researcher carried out the process of finding literature materials online, namely electronic resources using certain keywords, such as “classroom assessment literacy,” “assessment literacy,” or “classroom assessment”. Correct keywords can filter related articles more accurately and quickly (DeCarlo, 2018). Among the articles that are identified to meet

the requirements of the study are conducted and reported by the following researchers, DeLuca et al. (2015, 2016, 2019), F. H. N. Muhammad and Bardakci (2019), Jawhar and Subahi (2020), N. Muhammad et al. (2020), Lian et al. (2014), Yamtim and Wongwanich (2014), Levy-Vered and Alhija (2015), H. Xu (2017), Y. Xu and Brown (2016), Zolfaghari and Ahmadi (2016), and Popham (2009, 2011). In this step, the standard documents, namely Classroom Assessment Standard (Klinger et al., 2015) and the Teacher Classroom Implementation Guide (CDD, 2019), are identified as the main reference for this study. Researchers need to familiarize themselves with the data obtained from this article as the first phase of this study.

Among the findings in this first step, the literature review conducted by DeLuca et al. (2015) and Y. Xu and Brown (2016) showed that many standards are being built around the world depending on the educational needs of their citizens’ respective countries. This reference is the main guide for teachers in planning and implementing the classroom assessment process. Nevertheless, the findings indicated that most previous researchers referred to Standards for Teacher Competency of Educational Assessment of Students (STECAS) issued in 1990 by the American Federation of Teachers et al. (1990). Among them are Jawhar and Subahi (2020), N. Muhammad et al. (2020), F. H. N. Muhammad and Bardakci (2019), and Yamtim and Wongwanich (2014). There are seven main standards proposed by STECAS that are relevant

in terms of the teacher's skill and ability: (1) choosing assessment methods that are appropriate for instructional decisions, (2) developing assessment methods that are appropriate for instructional decisions, (3) administering, scoring, and interpreting the results of both assessment methods, (4) using the assessment results when making decisions about individual students, planning to teach, developing curriculum, and school improvement, (5) developing valid grading procedures to assess students, (6) communicating assessment results to students, parents, and other educators, and (7) recognizing unethical, illegal, and otherwise inappropriate assessment methods and uses of assessment information.

In 2015, The Joint Committee on Standards for Educational Evaluation (JCSEE), together with 16 professional bodies in the academic field, issued an official document as a reference for classroom assessment known as Classroom Assessment Standard (CAS), which is more up-to-date and comprehensive (Klinger et al., 2015). There are 16 standards with three themes proposed in CAS: Foundations, Use, and Quality. The first theme, Foundation, consists of Assessment Purpose, Learning Expectations, Assessment Design, Student Engagement in Assessment, Assessment Preparation, and Informed Students and Parents/Guardians. The second theme, Use, consists of five standards: Analysis of Student Performance, Effective Feedback, Instructional Follow-Up, Grades and Summary Comments, and Reporting. Finally, the third theme, Quality, comprises

five standards: Cultural and Linguistic Diversity, Exceptionality and Special Education, Unbiased and Fair Assessment, Reliability/Validity, and Reflection. Based on the literature review, only studies by Christopher DeLuca incorporated the CAS references in their research (DeLuca et al., 2015, 2016, 2019).

In Malaysia, the Curriculum Development Division (CDD) under MoE has developed its standard known as the Teacher Classroom Implementation Guide as the main reference for teachers when implementing classroom assessment in schools (CDD, 2019). Standards are necessary for teachers to make references in helping students meet the requirements of the set criteria, assess the quality of student work and arrange things that students need to do during the learning process (Sadler, 1989). This standard provides the guidelines for implementing assessment in the classroom that effectively begins with planning teaching, learning, and assessment methods; implementation of teaching, learning, and assessment; recording and analyzing students' dominance; and reporting the level of dominance of the students. In addition, follow-up actions are also focused on increasing the level of students' mastery, professional judgment, and moderation, as well as nine main features of the classroom assessment planned by the teachers: systematic, formative, and summative forms, use of various methods, criteria based, emphasizes individual development, to track the development of learning thoroughly, enabling follow-

up actions, and promoting self- and peer assessments (CDD, 2019). These features cater to the characteristics of 21<sup>st</sup>-century assessments, which should be continuous, consisting of assessment as learning (AaL), assessment for learning (AfL), and assessment of learning (AoL; Md Said, 2018) as well as the characteristics of high order thinking skills (HOTS) items, i.e., real-life situations, non-repetitive items, stimuli, task words, and unusual contexts (CDD, 2014).

## Throughput Level

### Phase 2: Generating Initial Codes

The second step in the model is the Throughput step, where researchers conduct a detailed analysis of documents related to TeCAL to examine whether the data obtained are “saturated” to indicate no new information/themes (Guest et al., 2006) and whether the same theme continues to be repeated (Morse et al., 2002). The same information from different researchers or sources is coded to see patterns that can be formed and show the perspective and focus of studies conducted by previous researchers. Coding is usually the most basic form of symbols, such as a phrase or short words that carry a specific meaning segment, such as a prominent attribute, captures the essence, or represents some of the language-based or visual data in the researcher’s data set (Saldana, 2013). Thus, the researcher has analyzed all the documents/articles of previous researchers to identify the prominent attributes and the essence of their study related to assessment literacy

described in the form of phrases or words that they often use. It can translate raw data into findings based on the objectives of the study conducted (Linneberg & Korsgaard, 2019).

Researchers have used deductive coding methods, which are more focused on issues generally known in the literature besides being enshrined in developing existing theories, as stated by Linneberg and Korsgaard (2019). Thus, in this study, all codes that have been obtained from the analysis of previous researchers have been grouped based on the definition of the concept of classroom assessment literacy by H. Xu (2017), which described it as the knowledge and capacity of teachers to undertake classroom assessment for the aim of continuous improvement, including a continuous process to gather information on individual’s growth and efficiency of teaching and learning, to obtain information, interpret information, make inferences and make decisions about what needs to be done to improve the learning of the students.

The first coding cycle is done based on analysis using information-centered terms in general, as suggested by Gioia et al. (2013), with code coloring technique, as suggested by Linneberg and Korsgaard (2019). This technique was chosen due to the limited data obtained and because it is not too complex. In addition, this step can provide the latest overview based on complex information from previous researchers (DeCarlo, 2018). Findings from the analysis of all documents/articles include some codes: Purpose/Goal/Objective, Important/ Necessity of assessment, Concept/

Method, Planning/Procedure/Choosing Assessment, Assessment Construction, Assessment Design/Method, Administration of Assessment/ Process/Implementing, Measurement theory/Validity/Reliability, Grading/Scoring Procedure, Information/ Result Analysis/Record/Collect, Interpretation, Communications/Evidence/ Comment/Clear standard terms, Use information/Making Decision; Ethics/ fairness/Bias/Professional Judgement, Report/Feedback to stakeholder, and Reflection/Follow-up Action (Figure 2).

### Phase 3: Defining and Naming Themes

After the initial code generation step, the next process is to classify the codes to identify the appropriate themes to represent these codes (Saldana, 2013). In this phase, the appropriate theme label is determined based on the groups of codes that are identified. This process allows researchers to narrow the number of codes to smaller themes or groups (Linneberg & Korsgaard, 2019). It involves the second cycle of encoding more researcher-centered, i.e., concepts, themes, and dimensions of the study that need to be emphasized to a higher abstraction level (Gioia et al., 2013). This more detailed and complex step requires researchers to consider different themes or types (Linneberg & Korsgaard, 2019). As stated by DeCarlo (2018), it requires careful attention to the level of conceptual measurement and its dimensions.

Linneberg and Korsgaard (2019) suggested that at this stage, the researcher should use some theories or concepts related to the phenomenon of the study conducted

as a deductive analysis. Thus, according to McMillan (2011), four themes (constructs) of assessment literacy are formed: Purpose, Measurement, Evaluation, and Use in the implementation of classroom assessments, which are (1) Purpose is to explain the specific purpose of collecting information either before (AfL), during (AaL) or after (AoL), (2) Measurement is the systematic process of setting numbers for differentiated behaviors and performance or behaviors using a variety of techniques, (3) Evaluation is the process of placing several levels of value on different numbers and observations based on a specific reference framework, and (4) Use is the last stage of performing an assessment that refers to how the assessment is used. Based on these definitions, the themes are coded and grouped into four groups (Table 1). Then, these codes are tested using fit statistical analysis in the measurement model to ensure the validity of the constructs in the themes used. If this code is found to be statistically appropriate, it will be retained under that theme or otherwise excluded. However, in this study, all codes met the required fit statistical analysis.

This study focuses on classroom assessment literacy; hence, all document analyses are discussed in the “throughput process” as a conceptualization process to identify related themes. These four themes are then used as the criteria for analyzing the CAS document in the next step (Klinger et al., 2015), while Classroom Assessment Implementation Guide (CDD, 2019) is used as the main reference in this study. Although it has not been explicitly mentioned by

Author		Construct & Subconstruct									
Relevant / Type											
Jamil and Subahi (2020)	Interviews in higher education	Choosing appropriate assessment method for instructional decisions.	Developing appropriate assessment method for instructional decisions.	Administering, scoring and interpreting the result.	Using assessment results when making decisions	Developing valid pupil grading procedures that used student assessment.	Communicating assessment results to various stakeholders	Recognizing methodical, illegal and inappropriate assessment methods and uses of assessment information			
N. M. Mahmood et al. (2020)	Technical teachers	Choosing appropriate assessment method for instructional decisions.	Developing appropriate assessment method for instructional decisions.	Administering, scoring and interpreting the result.	Using assessment results when making decisions	Developing valid pupil grading procedures that used student assessment.	Communicating assessment results to various stakeholders	Recognizing methodical, illegal and inappropriate assessment methods and uses of assessment information			
CCD (2019)	Standard	Planning instructional & assessment methods		Implementing instructional & assessment		Record & analyze student mastery		Recognizing methodical, illegal and inappropriate assessment methods and uses of assessment information			
Del'aca et al. (2019)	Teacher candidates	Assessment Purposes	Assessment Purposes	Assessment Process	Assessment Process	Equitable	Differentiated	Measurement Theory			
F. H. N. Muhammad and Burdick (2019)	Secondary & preparatory school teacher	Assessment as Learning	Assessment as Learning	Assessment Process	Assessment Process	Standard	Developing valid grading practices	Measurement Theory			
H. Xu (2017)	EFL Teacher of High School	Choosing the appropriate method of assessment	Developing an appropriate method of assessment	Administering, scoring and interpreting assessment results	Using assessment results for decision making			Recognizing methodical, illegal and inappropriate assessment practices			
Del'aca et al. (2016)	North America Teacher	Assessment Purposes	Assessment Purposes	Assessment Process	Assessment Process	Equitable	Differentiated	Measurement Theory			
Y. Yu and Brown (2016)	SLR Model TALLP	Disciplinary Knowledge & Pedagogical Content Knowledge	Knowledge of Assessment Purpose, content & methods	Knowledge of Feedback	Knowledge of assessment interpretation & communication	Standard	Teacher Concepts of Assessment	Measurement Theory			
Zahidgani and Almuti (2016)	High school teachers	Assessment Method	Factors enhancing the quality of assessment	Assessment Principles and Ethics	Assessment resources	Cognitive Dimensions	View of Learning & Epistemological Belief	Measurement Theory			
Del'aca et al. (2015)	SLR	Assessment Purposes	Assessment Process	Assessment Process	Assessment Process	Macro Socio-cultural & micro institutional contexts	General components of assessment theory	Measurement Theory			
Leyva-Vieja and Alipaz (2015)	Teacher Training Colleges	Matching to purpose		Communicated of Assessment Result	Assessment Process	Assessment Ethics	Assessment for Learning	Measurement Theory			
Klinger et al. (2013)	CAS Standard	Assessment Purpose	Learning Expectations	Assessment Process	Assessment Process	Grading & Interpretation	Reliability & Validity	Measurement Theory			
Yanlim and Wongwanich (2014)	Primary school teachers	Choosing appropriate assessment method for instructional decisions.	Developing appropriate assessment method for instructional decisions.	Administering, scoring and interpreting the result.	Using assessment results when making decisions	Grading and Summary Comments	Exceptionally and Linguistic Diversity	Measurement Theory			
Lin et al. (2014)	General Article	Validity of assessment	Reliability of assessment	Assessment Process	Assessment Process	Assessment for Learning	Assessment for Learning	Measurement Theory			
Del'aca and Bellini (2013)	Aligning Policy	Assessment Purposes	Assessment Process	Assessment Process	Assessment Process	Assessment for Learning	Assessment for Learning	Measurement Theory			
Popkum (2011)	General Article	Reliability	Assessment Process	Assessment Process	Assessment Process	Assessment for Learning	Assessment for Learning	Measurement Theory			
Popkum (2009)	General Article	The fundamental function of educational assessment namely; the collection of evidence	Reliability of educational assessment	Constructing and improvement of selected-response and constructed-response test items.	Scoring of students' responses to constructed-response test items	Development and scoring of performance assessments, portfolio assessments, exhibitions, peer assessment, and self-assessments	Assessment Concept	Measurement Theory			

Figure 2. Meta-analysis construct and sub-construct

Indicator: *Coding the Data*


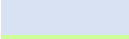






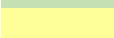







Color	Description	Color	Description
	: Purpose/Goal/Objective		: Grading/Scoring procedure
	: Important/Necessity of assessment		: Information/Result analysis/Record/Collect
	: Concept/Method		: Interpretation
	: Planning/Procedure/Choosing assessment		: Communications/Evidence/Comment/Clear standard terms
	: Assessment construction		: Use information/Making decision
	: Assessment design/Method		: Ethics/fairness/Bias/Professional judgement
	: Administration of assessment/Process/Implementing		: Report/Feedback to stakeholder
	: Measurement theory/Validity/Reliability		: Reflection/Follow-up action

Table 1

*Distribution of codes based on themes*

Group 1: Purpose	Group 2: Measurement	Group 3: Evaluation	Group 4: Use
Purpose/Goal/Objective	Assessment Construction	Grading/Scoring Procedure	Use information/Making decision
Important Necessity of assessment	Assessment Design/Method	Information/Result Analysis/Record/Collect	Report/Feedback to stakeholder
Concept/Method	Administration of Assessment/ Process/Implementing	Interpretation	Reflection/Follow-up Action
Planning/Procedure/Choosing Assessment	Measurement theory/Validity/Reliability	Communications/Evidence/Comment/Clear standard terms Ethics/fairness/Bias /Professional Judgement	

prior researchers, classroom assessment in the 21st century (student-centered) is also connected to high-order thinking skills (HOTS). Besides the nine classroom assessment features, only subthemes under

the main themes are included as added values onto constructs and subconstructs for use (CDD, 2019). All of these constructs and subconstructs are measured and are clearly stated in the form of conceptual definitions,

translated into operational forms through the construction of statements or items that can measure the constructs, as suggested by Kline (2015). These constructs and subconstructs are the main output of this study.

## Output Level

### Phase 4: Producing Report

The result of the analysis of this document is to produce the study output. Four constructs and 19 subconstructs are identified and clearly defined operations in phase five before being used as the basis for developing teacher assessment literacy instruments in the context of classroom assessment. The following are the definitions of operations that are identified:

#### *Purpose Component.*

According to McMillan (2011), the first step in classroom assessment (CA) is to explain the specific purpose of collecting information before, during, or after learning. Goals need to be set to determine the next step, such as what form of assessment is needed, how to administer and grade the assessments, and how the results can assist in improvements.

This study aims to provide teachers' CA literacy focus in planning teaching, learning, and building assessment instruments (CDD, 2019). It involves three components, which are the ability to do the following:

1. Determine CA objectives, assessment as learning (AaL), assessment for learning (AfL),

and assessment of learning (AoL) objectives.

2. Relate content and learning standards with a clear statement in performance standards; that is what students should learn in AaL, AfL, and AoL.
3. Provide information on the purpose and use of CA: AaL, AfL, and AoL, to students and parents/guardians.

#### *Measurement Component.*

Measurement is the systematic action of allocating numbers to behavior and performance (McMillan, 2011). It is a process in which traits, characteristics, or behaviors are distinguished numerically. Various methods can be applied to measure the nature or target of specified learning. According to the CDD (2019), this process can be implemented continuously in teaching and learning using (1) oral, (2) written, and (3) observation methods.

This study's measurement process focuses on teacher-classroom assessment (CA) literacy in implementing teaching, learning, and assessment (CDD, 2019). It involves seven components, which are the ability to do the following:

1. Categorize the types, various designs, and methods of CA: assessment as learning (AaL), assessment for learning (AfL), and assessment of learning (AoL).
2. Using the characteristics of HOTS items: real situations in daily life,

non-recurring items, stimuli, task words, and contexts that are not common.

3. Encourage students to participate in CA activities actively and meaningfully by supporting self and peer assessments: giving and receiving feedback based on criteria.
4. Planning CA preparation: time, resources, and opportunities.
5. Explain the ethics and its effects in implementing and making CA decisions that should not be influenced by factors unrelated to the purpose of the intended assessment.
6. Explain the characteristics of validity in CA, which should provide information that supports accurate decisions about the knowledge and skills of each student.
7. Explain the characteristics of reliability in CA, which should provide consistent and reliable information that supports accurate decisions about the knowledge and skills of each student.

### ***Evaluation Component.***

Evaluation places several levels of value on different numbers and descriptions based on a specific reference framework (McMillan, 2011). It also involves a process of judging involving quality (teacher professional

judgment), the interpretation collected through measurement, and emphasis on criteria, which are specific behavior or dimensions that are proven to fulfill the standards successfully. The teacher's expectations are communicated to the students through criteria and standards.

This study's evaluation process focuses on teacher classroom assessment (CA) literacy in recording results and analyzing students' assessment information (CDD, 2019). It involves four components, which are the ability to do the following:

1. Explain the analysis of learning evidence used based on criteria and performance standards in CA.
2. Record and characterize students' knowledge and skills development before, during, and after learning.
3. Characterize grades, overall mastery level, and CA: assessment of learning (AoL) comments on student achievement of learning expectations.
4. Explain professional considerations and discussions in providing CA (AoL) grades and reviews.

### ***Use Component.***

The final stage of implementing classroom assessment (CA) is how assessment is used (McMillan, 2011). Test scores and other information are closely related to making the decisions teachers need to implement effective teaching for assessment purposes

and the needs of students and parents. This decision depends on when it was made. McMillan (2011) categorized it into (1) diagnosis, (2) grading, and (3) instruction.

Use in this study refers to the focus on the CA literacy of teachers in reporting and follow-up action (CDD, 2019). It involves five components, which are the ability to do the following:

1. Explain CA as a timely response.
2. Plan instructions and provide the next steps to support continuous student learning as a follow-up action assessment for learning (AfL) and assessment as learning (AaL).
3. Prepare/record the results of formal reports- assessment of learning (AoL).
4. Provide comments and support summative values (AoL) that emphasize individual development.
5. Explain the practice of reflection on quality assurance and the effectiveness of CA implementation.

## CONCLUSION

Previous researchers emphasized that teacher assessment literacy is vital to the primary interconnection between assessment quality, teaching, and student achievement. Its effectiveness can influence educational decisions, such as improving the quality of teaching and learning that drives expected achievement by measuring, analyzing, interpreting, and using student performance

data to identify learning needs. Thus, this study contributes to identifying constructs and subconstructs often used by previous researchers when discussing assessment literacy and CA in their studies. Identifying the constructs and subconstructs of teacher assessment literacy in CA is important, especially before constructing instruments, to ensure that researchers can measure based on correct and accurate constructs at once is expected to improve the quality of teachers to support the teaching and learning process in schools. Qualitative document analysis is the first step to ensure that the constructs and subconstructs used in the instrument are appropriate and valid.

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## **The Mediating Role of Depression on the Relationship Between Personal Resources and Recovery Motivation Among Individuals with Drug Abuse Problems**

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### **ABSTRACT**

This study aimed to investigate the relationship between personal resources, depression, recovery motivation, and the mediating role of depression among drug abusers. It samples 50 individuals identified with drug abuse problems aged between 16 to 35 years who participated in a treatment programme for drug abuse problems in Cure and Care Rehabilitation Centres. Data were collected through a self-report questionnaire using five instruments: The Patient Health Questionnaire (PHQ), Rosenberg Self-Esteem Scale (RSES), Alcohol Abstinence Self-Efficacy Scale (AASE), The Life Orientation Scale (TLOS), and Commitment to Sobriety (CSS). Data were analysed through SPSS 23 and Partial Least Square-Structural Equation Modelling (PLS-SEM). In the path model, the results demonstrate that personal resources are significantly associated with depression. The finding indicates the significant reciprocal relationship between depression and recovery motivation. The results of this study also reveal the importance of depression in mediating the relationship between personal resources and recovery motivation. This study proposes that high levels of depression could potentially decrease the possibility of recovery motivation in an individual. It can also be concluded that a significant relationship exists between personal resources, depression, and recovery motivation, with depression as a mediator

among individuals with drug addiction. These findings imply that mental health issues should also be considered in the treatment plan for people with drug abuse so an individual's resources can be maximised and their recovery motivation enhanced.

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**Keywords:** Depression, drug abuse, motivation, optimistic, recovery, self-efficacy, self-esteem

## INTRODUCTION

Prolonged substance usage is a public health crisis (Ali & Sigalla, 2017). Substance abuse consumes a figure of a half trillion dollars in one year in remedial, financial, felonious, and social costs, causing over 100,000 deaths in the USA. The treatment of drug addicts is associated with a decrease in substance intake and illegal activities, betterment in work-related activities, and improvement in socio-psychological well-being. This socio-psychological well-being relies on the recovery motivation of the former addict during his/her treatment. For decades, researchers, scholars, and healthcare practitioners have been concerned about the factors associated with increasing the recovery motivation among drug abusers during their treatment. Recovery motivation is an individual's internal will and consistency to resist drug intake and criminal activities (Chen, 2018).

When former addicts become motivated to withdraw from drug abuse, they normally develop new behavioural mechanisms (Duckworth et al., 2016; Galla & Duckworth, 2015). This new behavioural mechanism potentially helps them to promote health and different approaches to circumvent indications that appeal to signal behaviour (Brevers et al., 2018). An exploratory study on motivational recovery found that personal factors were linked to recovery (Chan et al., 2019; Grodin et al., 2019). These personal factors refer to the psychological state of a former addict. Among others, as a personal resource, self-efficacy is the most significant recovery indicator among drug addicts

during treatment. Previously, motivation and self-efficacy were discovered as significant determiners in reducing heavy drinking behaviour among former addicts seeking brief temperance objective treatment (Morgenstern et al., 2016). It is suggested that special consideration should be given to improving self-efficacy in establishing intervention strategies (Tatum & Houston, 2017). According to Locke and Bandura's (1987) social cognitive theory, the treatment of self-efficacy may improve a person's self-esteem, which subsequently contributes to achieving certain goals (Bandura, 2002). Furthermore, it is believed that self-esteem and optimistic behaviour are the key components in examining the extent of motivation a former addict has for recovery during the treatment (Mokuolu & Adedotun, 2020). The more a former addict is confident in normalising his/her behaviour, the higher his/her motivation to recover.

Personal resources increase optimistic behaviour for recovery motivation, which is also a significant predictor. Woldgabreal et al. (2016) proposed a model in which they shed light on the understanding of self-efficacy, confidence, and optimistic behaviour in improving one's motivation to normalise one's behaviour. In Malaysia, Razali and Madon (2020) examined the factors that influence the likelihood of relapse among former addicts, and they indicated that problem-focused coping, emotion-focused coping, avoidance coping, and self-efficacy play a role in recovery programme success. Wang et al. (2019) explain that optimism heightens people's

motivation to achieve goal-oriented behaviour. The constructs play a significant role in increasing recovery motivation among former addicts. However, a growing body of literature is also concerned about another major psychological entity that may affect the recovery process. This psychological entity is depression. A mental health problem often comes into play because of declining confidence in life and losing interest.

An array of literature emphasised the importance of personal resources, which include optimism, self-efficacy, self-esteem, and depression that either increase or decrease the recovery motivation among former addicts during their treatment in various rehabilitative centres. Several studies have been conducted in Malaysia, for instance, a study on family support and hope for former addicts (Ghani et al., 2018; Razali et al., 2021). However, there were no conclusive findings in previous literature regarding the role of personal resources on recovery motivation and the mediating role of depression among former addicts in Malaysia. Therefore, the present study aimed to highlight research loopholes, identify new horizons, and explain the importance of personal resources in recovery motivation. Personal resources refer to the psychological state of a former addict. Meanwhile, motivation is self-determination to adopt positive behaviour and integrate a person's behaviour and activity. In such a situation, high motivation is directly linked to higher chances of recovery (Grodin et al., 2019).

This view is supported by Linke et al. (2013), who conceived and discussed the assumptions of relapse prevention theory, which direct that one should improve one's self-efficacy to live a healthy lifestyle. Self-efficacy improves the recovery process during drug-rehabilitative treatment, and higher self-efficacy leads to a lower risk of relapse for a former addict. Hence, recovery motivation is positively associated with the self-efficacy of addicts during treatment. This association highly predicts the probable outcomes of the treatment. Furthermore, among all the personal factors, optimism significantly encourages positive outcomes in an individual's behaviour (Rajabi & Salmanpour, 2019). These outcomes are reflected as the consequence of constant, general, and intrinsic determiners. Consequently, Mokuolu and Adedotun (2020) indicate that optimism and belief in one's abilities and strengths will update one's behaviour, which he had designated self-esteem. Suppose a person has poor self-esteem, self-efficacy, and optimism, there is a higher risk for the person to suffer from severe depression, which may slow down the recovery process during treatment.

Studies posit that the incidence of various life events is a dependable factor in developing depressive signs (Best et al., 2016). For instance, lack of support, empathy, loss of a loved one, stress, and failure could result in depression. Ghani et al. (2018) describe that drug rehabilitation requires the willingness of a former addict to leave the addictive behaviour and then acquire internal and external strong points

to endure pain while battling addiction. This situation can cause depression as addicts try to counter drug intake and thwart setbacks. However, Tatum and Houston (2017) found that empirical evidence did not clearly outline the relationship between depression and recovery motivation. According to the reformulated theory, negative events, and internal stability lead to a greater probability of depression. Produced hopelessness due to depression leads to a bad self-image and a sense of worthlessness that bring about feelings of demonisation towards normalisation and reduces recovery motivation (Liu et al., 2015).

Gunn and Samuels (2020) stated that recovery motivation is fundamental to numerous life revolutions, comprising transformations from drug abuse to recovery during treatment post-internment. This elusive task is bewildering and generally comprises comparable changes in any individual's crucial associations. According to Rajabi and Salmanpour (2019), optimistic behaviour is an important predictor of adapting to life events. Of all the determiners and fundamentals leading to an established and higher recovery motivation, the intrinsic and personal procedure should not be ignored. This complication can be generalised to all sorts of human behaviours and traits. Furthermore, perceived self-efficacy decreases the symptoms of depression, anticipates reticence, and influences behavioural consequences as well as an addict's motivation and struggles for coping with numerous conditions

by enhancing aspirations of successful treatment. In comparison, higher self-esteem is highly linked to a decrease in depression and an increase in recovery motivation (Kitinisa, 2019).

According to the World Health Organization (WHO; 2019), mental health problems, especially depression, are projected to increase by 50% by 2030. The prevalence of mental health and behavioural problems is because many consider drug use an alternative to escape problems of stress, worry, and depression (Subramaniam et al., 2018). Depression is also caused by genetic factors inherited from their parents (Wickersham et al., 2020). It means depression is a biological factor that influences the neurochemical activities in the human brain (Skóra et al., 2020; Wangdi & Jamtsho, 2019).

This study investigated the relationship between personal resources, depression, and recovery motivation among former addicts during treatment and analysed the mediating role of depression between personal resources and recovery motivation among former addicts. In line with the evidence offered by previous literature, the following hypotheses were formulated:

H1: There is a relationship between personal resources and depression.

H2: There is a relationship between depression and recovery motivation.

H3: Depression mediates the relationship between personal resources and recovery motivation.

## METHODOLOGY

### Participants

A cross-sectional data technique was executed to measure the study's objective. The questionnaires were distributed mainly based on a face-to-face approach. A survey was conducted using self-report questionnaire. Data were collected from 50 respondents who were selected by convenience sampling. The respondents were undergoing treatment procedures for drug addiction within one to six months, had joined the Cure and Care Rehabilitation Centre (CCRC) programme for the first time, were free from psychiatric or chronic illnesses and agreed to participate in the study. The study sample refers to drug addicts between 16 to 35 years who were undergoing treatment and rehabilitation procedures in CCRC. This study analysed the data using Smart-PLS. According to Hair et al. (2014), Smart-PLS is the best solution for an exploratory study and small sample size in data analysis. This study is similar to Purwanto et al. (2021), which had a small data sample of 40 respondents and analysed the data using Smart-PLS.

### Procedure

Prior to data collection, the researchers had applied for approval from the relevant government agency to conduct this research. After the agency obtained the approval, the researchers contacted and set up an appointment with the agency's Prevention Officer in Kelantan to set a date for data collection. Briefing sessions were held between the research group and the agency's

Prevention Officers for questionnaire distribution. The research samples were recruited from CCRC, Bachok, Kelantan. Each respondent was given compensation for their participation. After distributing the questionnaires, each respondent was informed about the research details. They were aware that all the information shared with the researcher was confidential. In addition, the questionnaire was answered individually. The respondents were reminded to answer the questionnaire based on their experiences and perception. They were given an ample 15 to 20 minutes to respond to the questionnaire. In addition, the researcher was made available to help the respondents answer the questionnaire.

### Measures

The present study used questionnaires which consisted of several segments that included information on demographic profiles and personal factors such as self-worth, self-efficacy, optimism, depression, and motivation. The instruments used in the present research included The Rosenberg Self-Esteem Scale, Life Orientation Test, Commitment to Sobriety, The Patient Health Questionnaire, and a modified Alcohol Abstinence Self-Efficacy Scale (AASE).

### Survey Instrument

The back-to-back translation method was used to translate the survey instrument into Malay (Brislin, 1970). The original English version was initially translated into Malay by the first translator, and then translated back into English by the second translator. Both translators are psychologists and

well-versed in both English and Malay. To measure the reliability and validity of the Malay-language version of the test tool, a pilot test was carried out. The pilot test findings showed that the test had a good reliability value of  $\alpha \geq 0.6$  to 0.7.

### Depression

Depression was assessed using nine (9) items from The Patient Health Questionnaire (PHQ) developed by Kroenke et al. (2001). This questionnaire measured symptoms of depression, such as feeling stressed or hopeless, difficulty sleeping (either sleeping too much, too little, or falling asleep), tiredness or lack of energy, overeating, or losing appetite. For each statement, the respondents were asked how often they experienced such problems within the last two weeks using the 4-point Likert scale. The item scales ranged from '0' (never) to '3' (almost daily). The total score could range from 0 to 27, with high scores indicating high depression. A score of more than 20 shows severe depression, 15-19 shows moderately severe depression, 10-14 shows moderate depression, while a score of 5-9 shows mild depression. The PHQ-9 is an accurate measure of depression used in several countries and cultures. Identifying depression is an important step in treating drug addiction effectively. One example is: "Over the last two weeks, how often have you been bothered by feeling down, depressed, or hopeless?" This instrument aligns with previous studies on drug abusers, such as Watkins et al. (2004) and Dum et al. (2008).

### Self-Esteem

Self-esteem was measured using the Rosenberg Self-Esteem Scale (RSES). The RSES is the most used measurement tool in social science research to measure self-esteem. This measurement tool was designed by Rosenberg (1986). The respondents were given at most five (5) minutes to answer the RSES test, which is a short test. It was manageable as it only contained ten (10) items and was not too tedious for the respondents. In addition, the RSES used a 5-point Likert scale. The responses with low self-esteem were for items numbered 1, 2, 4, 6, and 7, while the responses for high self-esteem were for items numbered 3, 5, 8, 9, and 10. The overall respondent score was calculated by adding the score value after reverse-scoring for negative items. The overall respondent score had a total of between 0 and 50. An example of the item is: "I am able to do things as well as most other people." This instrument is in line with previous studies on drug abusers such as Singh and Saxena (2014) and D'Souza (2016).

### Self-Efficacy

Self-efficacy was measured using the Alcohol Abstinence Self-Efficacy Scale (AASE) developed by DiClemente et al., (1994). The AASE is a 20-item self-report measure to assess self-efficacy applied to alcohol abstinence. Hiller et al. (2000) adapted this questionnaire for drug abusers into four conceptual categories: 1) negative effect (like "When I am feeling depressed"); 2) social/positive (like "When I am being

offered drugs in a social situation”); 3) physical and other concerns (like “When I have a headache”); and 4) craving and urges (like “When I experience an urge or impulse to use drugs that catches me unprepared.”). This questionnaire used a 4-point Likert scale, with not at all (0) to extremely (3), where higher scores indicate higher self-efficacy to abstain from drug use. The test results help evaluate the potential of someone’s progress to drug treatment and determine the proper treatment. A high score in the AASE shows individuals with more confidence in their ability to not use drugs. This instrument aligns with previous studies on drug abusers such as Hiller et al. (2000).

### **The Life Orientation Scale**

The Life Orientation Scale questionnaire by Scheier et al. (1994) measures an individual’s level of optimism. In this study, the questionnaire contained ten (10) items. For this questionnaire, the higher the score, the higher their optimistic attitude. This questionnaire also used the five-point Likert scale (0 = strongly disagree; 4 = strongly agree) to show how much they agree with the 10 statements about positive and negative expectations. The responses for high optimism were for items numbered 2, 5, 6, and 8, while the responses for low optimism were for items numbered 1, 3, 4, and 7. After reverse-scoring for negative items, the overall respondent score was done by adding up the score value. An example of the item is: “I am a believer in the idea that ‘every cloud has a silver lining.’” This instrument is in line with previous studies

on drug abusers such as Ottu and Umoren (2020).

### **Motivation for Recovery**

Motivation for recovery was measured using the Commitment to Sobriety (CSS). CSS was designed by Kelly and Greene (2014) and consists of five items. CSS aimed to evaluate the respondents’ commitment level towards drug use. Among the items in this questionnaire are “I will do whatever it takes to recover from my addiction,” “I am committed to staying off drugs,” “I never want to return to alcohol/drug use again,” and “I have had enough drugs.” Each item was rated on a 6-point Likert scale from strongly disagree (1) to strongly agree (6). CSS is useful to help explain addiction behaviour and the inclination to relapse into drug use. This instrument is in line with previous studies on drug abusers, such as Kelly et al. (2014) and Kelly and Greene (2014).

### **Data Analysis**

**Demographic Profiles.** This section presents the description of the sample. The characteristics of respondents are described by gender, age, marital status, education, employment status, and income category. This information is presented in Table 1.

Based on Table 1, most respondents were between 21–40 years of age (84%) and were married (48%). Regarding the level of education, 40.0% of the respondents had PMR-level education, 46% were not working, and 38% were self-employed. Most respondents had no income for their

Table 1

*Demographic profile of respondents*

Items	Classification	Total	Percentage (%)
Age (years)	< 20	3	6.0
	21–40	42	84.0
	> 40	5	10.0
Marital Status	Single	6	12.0
	Married	24	48.0
	Divorced	20	40.0
Education	Not Going to School	1	2.0
	Certificate	3	6.0
	PMR	20	40.0
	Diploma	1	2.0
	SPM	25	50.0
Employment Status	Not working	23	46.0
	Self-Employed	19	38.0
	Student	1	2.0
	Part-time	7	14.0
Income Category (RM)	< RM500	11	22.0
	RM501–RM1000	7	14.0
	RM1001–RM1500	6	12.0
	RM1501 and above	3	6.0
	No Income	23	46.0

salary (46%), and 22% had income below RM500.

For statistical analyses, IBM SPSS Statistics 23.0 was used. Structural Equation Modelling (SEM) is an advanced statistical analysis method to decipher complex relationships between constructs across various disciplines, such as the social sciences. SEM proves to be especially useful when it comes to the evaluation of more complex and sophisticated multivariate data analysis relationships. SEM allows for the

simultaneous analysis of multiple variables (Hair et al., 2016). In order to analyse the data collected, Statistical Package for the Social Science (SPSS) and Smart-PLS 3 (Partial Least Squares) software were applied. According to Hair et al. (2014), the PLS-SEM is a superior, powerful, and flexible tool for statistical model building. It was mentioned by Hair et al. (2014) that if the research goal is exploratory, the researcher should use PLS-SEM. Moreover, PLS-SEM is a convenient and dominant

statistical method in social sciences research. Thus, the data were analysed according to the analytical procedures suggested by Hair et al. (2017) and were performed for analysis of hypothesis 1 (H1: Personal resources influence recovery motivation significantly) and hypothesis 2 (H2: Personal resources have a significant relationship with depression and recovery motivation).

## RESULTS

### Measurement Model

A confirmatory factor analysis (CFA) was run using an algorithm to determine the measurement scale's item reliability, convergent validity, and discriminant validity to evaluate the measurement model. As shown in Figure 1, the conceptual model for this study and the measuring model were identical. Personal resources, depression, and recovery motivation were three of the model's latent variables. To obtain the results, Smart-PLS Algorithm was used.

### Reliability

The reliability of the reflective construct is via composite reliability values that are available in Smart-PLS. All items' outer loadings were  $>0.50$ , with Composite Reliability values above 0.70 were deemed reliable (Hair et al., 2017). The reliability values of all constructs reported in Table 2 showed that the Composite Reliability values were above 0.70, leading to a conclusion that all constructs meet the acceptable level of reliability. Composite Reliability was reported as "reasonable to

consider and report both" (Hair et al., 2016, p. 107).

### Convergent Validity

The average variance extracted (AVE) may be used to establish discriminant validity (Garson, 2016). This criterion is the calculated average value of the squared loadings of all items related to a construct (which is like the commonality of a construct) and should have a value of 0.50 or higher (Hair et al., 2016). The AVE values for all reflective constructs are shown in Table 3. All the AVE values exceeded the minimum value of 0.50. Accordingly, convergent validity is said to be achieved among all the constructs in the study.

### Discriminant Validity

As per Table 3, all square roots of AVEs had values larger than their corresponding constructs correlations. This leads to the conclusion that the discriminant validity of the measurement instrument is confirmed. It implies that the variance of each construct is greater than the measurement error variance (Hair et al., 2016).

### Structural Model Analysis

Testing the several proposed research hypotheses is the main goal of the structural model assessment. Based on the suggested research framework, this study provides two direct-effect research hypotheses, which were explored and refined. The next step was assessing whether the structural model is adequate after providing empirical data

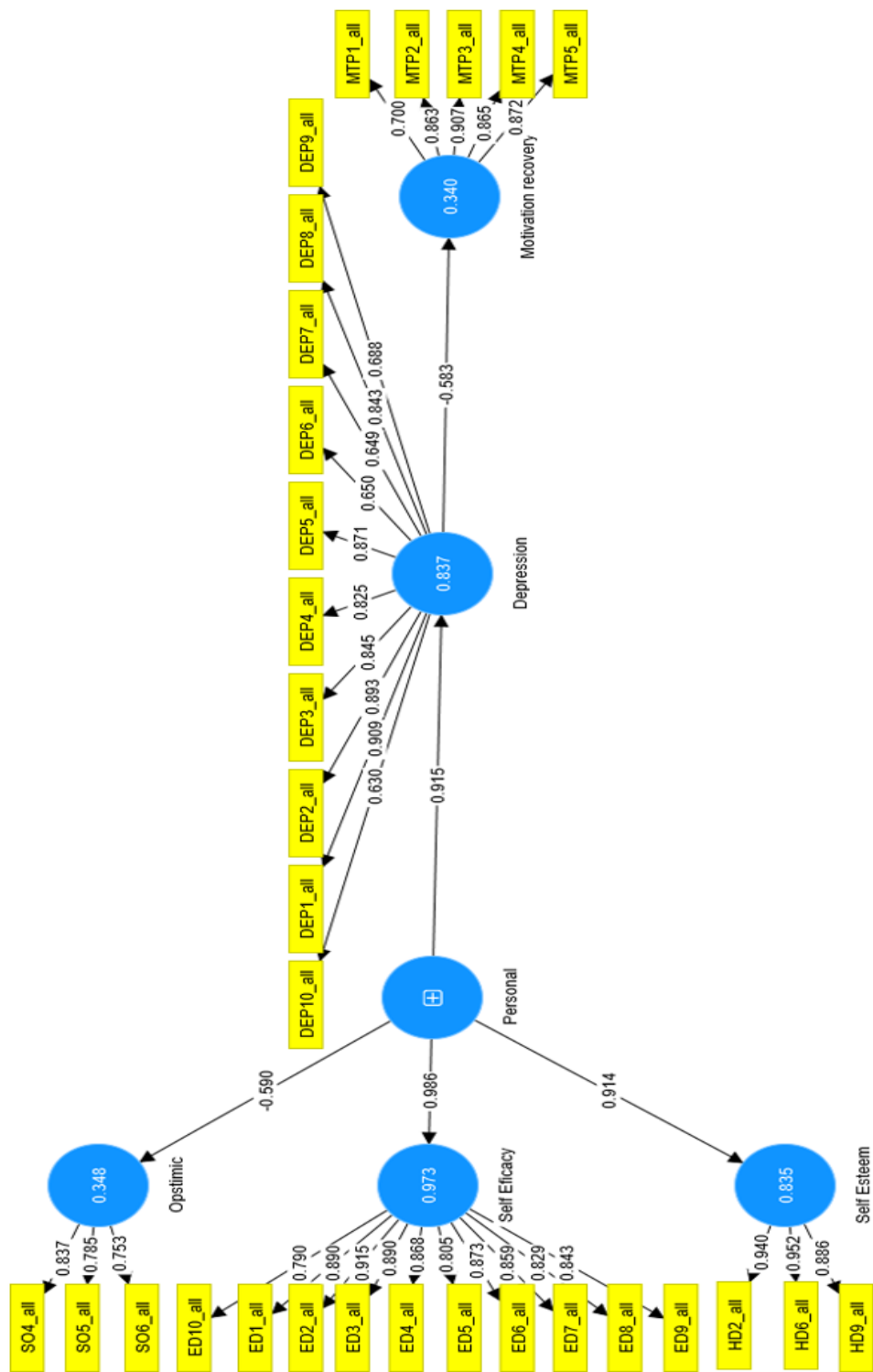


Figure 1. Measurement model

Table 2

*Reliability and validity statistics*

Construct	Items	Loadings	CR	AVE
Personal Resources				
Optimism	SO4_all	0.837	0.834	0.627
	SO5_all	0.785		
	SO6_all	0.753		
Self-Efficacy	ED1_all	0.890	0.965	0.734
	ED2_all	0.915		
	ED3_all	0.890		
	ED4_all	0.868		
	ED5_all	0.805		
	ED6_all	0.873		
	ED7_all	0.859		
	ED8_all	0.829		
	ED9_all	0.843		
	ED10_all	0.790		
Self-Esteem	HD2_all	0.940	0.948	0.858
	HD6_all	0.952		
	HD9_all	0.886		
Depression	DEP1_all	0.909	0.941	0.620
	DEP2_all	0.893		
	DEP3_all	0.845		
	DEP4_all	0.825		
	DEP5_all	0.871		
	DEP6_all	0.650		
	DEP7_all	0.649		
	DEP8_all	0.843		
	DEP9_all	0.688		
	DEP10_all	0.630		
Recovery Motivation	MTP1_all	0.700	0.925	0.713
	MTP2_all	0.863		
	MTP3_all	0.907		
	MTP4_all	0.865		
	MTP5_all	0.872		

Table 3

*Discriminant validity*

	Depression	Optimistic	Personal Resources	Recovery Motivation	Self-Efficacy
Depression	0.788				
Optimistic	-0.508	0.792			
Personal Resources	0.915	-0.590	0.788		
Recovery Motivation	-0.583	0.633	-0.716	0.845	
Self-Esteem	0.549	-0.539	-0.429	0.761	0.926

regarding the validity and reliability of the constructs' measurement model. Significant and robust routes support that theory during the structural model assessment (Hair et al., 2017). The structural model assessment also shows the predictability of the model.

The path coefficients, t-values, and significance of the relationship between personal resources, depression, and recovery motivation by the bootstrapping procedure are presented in Table 4. The bootstrapping results confirm that the path coefficients reported a significant level at 0.05 and a t-value above 1.64 (Hair et al., 2017). Based on Figure 2, the results of SEM, as shown in Table 4, support hypotheses 1 and 2. Personal resources had a significant relationship with depression (H1:  $\beta = 0.915$ ,  $p \leq 0.001$ ), meanwhile, depression had a significant negative relationship with recovery motivation (H2:  $\beta = -0.583$ ,  $p \leq 0.001$ ).

Table 5 shows the results of the mediating effect of recovery motivation. Hypothesis H3 assumes that depression mediates between personal resources and recovery motivation (PS  $\rightarrow$  DP  $\rightarrow$  MR) with a t-value of 6.323 (more than 1.64)

and a  $p$ -value of 0.00. Thus, hypothesis 3 is supported.

Table 5 indicates that depression fully mediates the relationship between personal resources and recovery motivation. The findings show that when depression is low, recovery motivation is high. These findings further indicate that controlling the mediating variable can enhance the relationship between personal resources and recovery motivation. The structural model with standardised weights is shown in Figure 3.

The core objective of the present study was to investigate the relationship between personal resources and recovery motivation with the mediating role of depression among former addicts during the treatment programme. Personal resources were analysed by the dimension of optimism, self-efficacy, and self-esteem among the respondents during rehabilitation. The findings suggest that personal resources, i.e., optimism, self-efficacy, and self-esteem, play an important role in increasing self-determination and surges for recovery motivation.

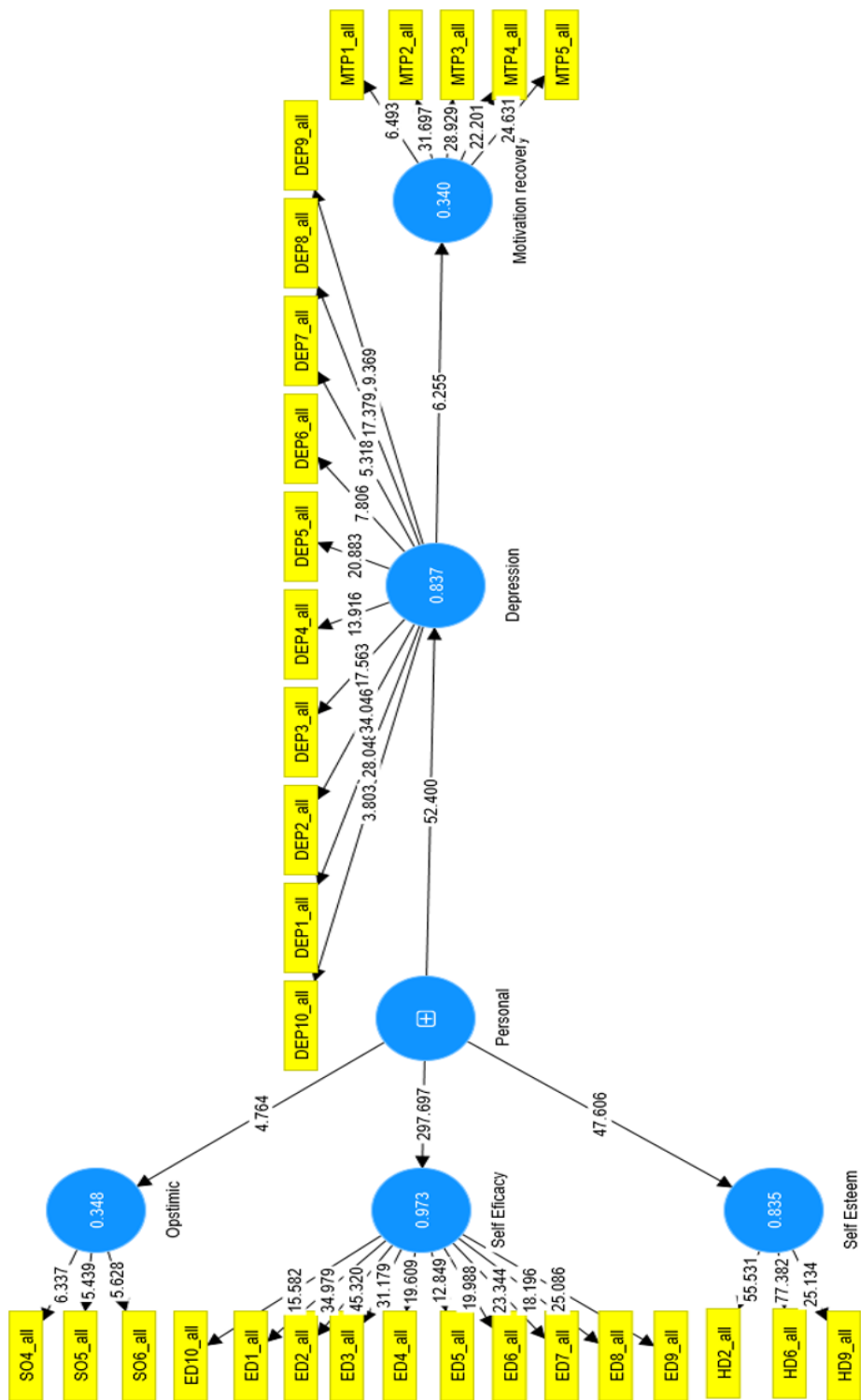


Figure 2. Structural model

Table 4

*Results of hypotheses testing*

Hypothesis	Path	Estimate	S.d	t-value	p-values	Results
H1	PS → DP	0.915	0.018	52.400	0.000	Supported
H2	DP → MR	-0.583	0.092	6.255	0.000	Supported

Table 5

*Model after mediation – Hypothesis 3*

Influence Relation	Independent Variable	Path	Dependent Variable	Estimate	t-value	p-values	Results
Indirect	PS	→	MR	-0.533	6.323	0.00	Supported

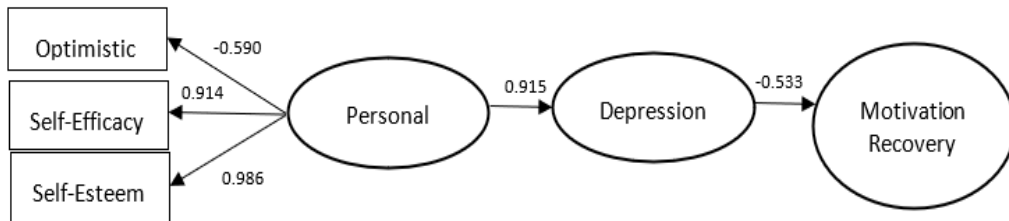


Figure 3. Hypothesised model with path coefficients

## DISCUSSION

The present study examined the relationship between personal resources, namely optimism, self-efficacy and self-esteem, and recovery motivation, with the mediation of depression among individuals with a drug addiction history. Based on the statistical results for hypothesis 1, a significant relationship between personal resources and depression was confirmed; thus, it is supported. This finding is consistent with the preceding study by Rajabi and Salmanpour (2019), which discovered that psychological instability (i.e., poor self-efficacy, low self-esteem, and inability to have optimistic behaviour) resulted in depression among

drug addicts during their treatment. It implies that an increase in personal resources is accompanied by improved psychological well-being, which reduces the symptoms of depression. On the other hand, hypothesis 2, there is a relationship between depression and recovery motivation, was confirmed, and this is supported. These results are also consistent with Ghani et al. (2018) and Liu et al. (2015), which showed a significant link between an addict's willingness to recover from drug addiction and feelings of hopelessness and worthlessness of life that can lead to the demotivation of addicts during their treatment. When a former addict suffers from depression, the addict can

get demotivated in their recovery process. Lastly, hypothesis 3 suggests that depression mediates between personal resources and recovery motivation, and the result is supported.

The findings recognised an important mediating role of depression between personal resources and recovery motivation. This finding is consistent with Kitinisa (2019), demonstrating that depression is significantly associated with personal resources. If an individual has higher levels of depression, it will affect his/her recovery motivation. In addition, Müller et al. (2019) pointed out a noticeable connection between self-efficacy and personal motivation to overcome chronic alcohol addiction. Self-efficacy paved the way for personal improvement and helped the affected individuals abstain from hazardous substances. This finding suggests that the role of personal resources, including self-efficacy, self-esteem, and insurmountable optimism, cannot be taken for granted in returning the former addict to society. Furthermore, other studies, such as Chan et al. (2019), examined the relationship between one's psychological needs and drug addiction. They found that psychological needs have become pivotal in persuading an individual to consume drugs. An important issue emerging from the findings is that lack of motivation would potentially aggravate depression in an individual. Tran et al. (2020) suggest that physical and cognitive activities result from decision-making made by an individual. When a person is depressed, the decision-making processes are affected.

## CONCLUSION

This study concludes that there is a significant relationship between personal resources and recovery motivation among individuals with drug addiction. Furthermore, the process of recovery motivation can be highly influenced by depression among former addicts. The finding of the present research is consistent with those similar to previous studies. Thus, self-efficacy, self-esteem, and overall optimistic behaviour are linked to improvement concerning recovery motivation among individuals with drug addiction. However, this relationship is mediated by the psychological state of the individual, i.e., depression. Thus, the experience of depression may affect recovery motivation. It contributes to the understanding that a visible connection has been found between an addict's willingness to recover from drug addiction and feelings of hopelessness and worthlessness linked to the demotivation of addicts during their treatment. As an implication, it is suggested that, in helping the individual with a drug addiction problem, apart from facilitating the improvement in their addictive thought and behaviour, mental health intervention should also be considered so that an individual's resources can be optimised, and recovery motivation enhanced. Subsequently, a better result can be yielded.

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## **Sustainability of Community Sociocultural Activities As a Tourist Destination During the Covid-19 Pandemic: A Case Study in Kampung Jawi, Semarang City, Indonesia**

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### **ABSTRACT**

Kampung Jawi is a Javanese tourism village in Semarang City, Indonesia that aims to realize sociocultural sustainability. Currently, sociocultural sustainability faces the challenges of the Covid-19 pandemic, which restricted various activities. This quantitative study examines the sustainability of sociocultural activities in Kampung Jawi during the Covid-19 pandemic. The scoring analysis is applied to the questionnaire results to calculate and group the sustainability score into low, medium, and high. Questionnaires are distributed to 94 local communities to assess sociocultural sustainability during the pandemic. The results show that the sustainability of sociocultural activities in Kampung Jawi during the Covid-19 pandemic is "Medium." The pandemic's most significant impact is on cultural richness and participation because it restricts various community sociocultural activities. Furthermore, Covid-19 affects people's efforts to maintain their cultural assets now and in the future. It has weakened economic activities that can reduce the village's ability to provide cultural and health facilities.

*Keywords:* Community, Covid-19 pandemic, sociocultural activities, sustainability, tourist destination

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### **INTRODUCTION**

Indonesia has diverse natural and cultural resources that could be potential for tourism. Tourism is a powerful local and national economic development tool, especially in developing countries (Y. A. Wibowo & Ronggowulan, 2021; Wondirad, 2020). Tourism is a human activity that impacts local communities, contributing to

environmental, economic, and sociocultural improvements (Nematpour & Faraji, 2019). Currently, the tourism sector is applying the sustainable development concept that emphasizes economic, social, and environmental balance (Arlym & Hermon, 2019). The sustainable tourism concept is practiced by tourism actors and applied in various cities in Indonesia.

Semarang City has various natural and cultural tourist destinations. One sustainable tourism practice has used the Community Based Tourism (CBT) approach supported by the Thematic Village program since 2016. Kampung Jawi, located in Sukorejo Village, Gunungpati District, is a thematic village that has developed into a tourist destination. A tourism village integrates attractions, accommodations, and supporting facilities in the order of people's lives to attract tourists (S. R. Sari et al., 2020). The tourist attractions in Kampung Jawi comprise traditional Javanese cultural activities preserved by the community. The village implements sustainable CBT, emphasizing social, cultural, and environmental sustainability. Furthermore, CBT strengthens local communities in tourism management (He et al., 2021). Kampung Jawi was developed as a tourist destination to preserve and maintain traditional Javanese sociocultural sustainability (L. Y. Putri & Pigawati, 2019).

During development, Kampung Jawi evaluates and improves various aspects to realize sustainable and competitive tourism. However, tourism and sociocultural activities were shaken in 2020 due to the

Covid-19 pandemic. Covid-19 was declared a global pandemic on March 11, 2020, by the World Health Organization (WHO). Tourism with the arts, culture, and creative industries is one of the economic sectors most affected by the pandemic (Flew & Kirkwood, 2021). This pandemic has a high rate of spread and transmission. In response to the pandemic, governments have focused on social distancing, travel restrictions, the prohibition of large group gatherings, and an economic recession (Flew & Kirkwood, 2021). The policy on the number of tourist visits was also applied. The Semarang City Culture and Tourism Information System data indicated that domestic tourist visits decreased drastically from 7.223.529 in 2019 to 3.260.303 in 2020 and 1.188.611 in 2021.

COVID-19 has significantly restricted tourism, arts, and culture, limiting travel and movement, outdoor activities, and large gatherings (Flew & Kirkwood, 2021). The tourism sector's temporary suspension has impacted transportation, the accommodation industry, souvenirs, performances, cultural arts, and culinary (Kristiana et al., 2021). Therefore, tourism sustainability could be threatened without the strong transformation and resilience of the various components.

The sustainability of sociocultural activities in Kampung Jawi is threatened due to the Covid-19 pandemic. Semarang Mayor Regulation Number 57 of 2020 issued a policy regarding implementing restrictions on community activities. Based on these regulations, the operational activities of public facilities, including

tourist attractions, are limited to 11.00 PM (“Peraturan Walikota”, 2020). The government also urges to stop or reduce the intensity of activities involving many people. It impacts the sociocultural activities of the community in Kampung Jawi, including tourism. The Kampung Jawi Manager stated that cultural activities integrated into tourist attractions have drastically reduced. Only one of the initial 11 tourist attractions was maintained due to the Covid-19 pandemic. Additionally, the sociocultural activities conducted routinely are stopped. The Covid-19 pandemic has also resulted in virtual tourism through web searches and media displays. It is carried out through images or videos that allow users to feel they are in a tourist place (Riesa & Haries, 2020). Virtual tourism changes the implementation of cultural activities integrated into tour packages.

A study is needed to assess the sustainability of sociocultural activities in Kampung Jawi during the Covid-19 pandemic. Several studies have identified the tourism component’s condition (L. Y. Putri & Pigawati, 2019) and the community’s efforts to preserve culture (Nurdiani & Felicia, 2021). However, no study has discussed the sustainability of Kampung Jawi as a tourist destination, especially during the Covid-19 pandemic. N. Sari et al. (2019) examined the sustainability of other tourist villages in Kampung Ngadas. The study focused on the most potential sustainability aspects of CBT development. Most studies on sustainability assess the economic, social, and cultural aspects (Asmelash & Kumar, 2019; Blancas et al.,

2011; Šarenac et al., 2019). In contrast, this study focuses on the sustainability of the community’s sociocultural aspects as the main component in developing Kampung Jawi tourism.

This study aims to assess the sociocultural sustainability in Kampung Jawi as a tourist destination during the Covid-19 pandemic. The assessment was conducted from the local community’s perspective as the main actor in tourism development and implementation of cultural preservation. Local people understand how many changes have occurred due to the Covid-19 Pandemic. The results could be considered in formulating efforts to improve sociocultural sustainability in tourism village.

## LITERATURE REVIEW

### Sociocultural Potentials in Tourism Development

Sociocultural activities are tourism potentials found in people’s daily lives. Culture could entail community activities, habits, or work and social activities such as hospitality, mutual harmony, and cooperation (Sukmana et al., 2020). When managed properly, sociocultural activities could support tourism development into attractions (K. A. Putri et al., 2018). Masly (2017) distinguished attraction into cultural and social attraction. Cultural attractions include art, events, festivals, history and folklore, and religion. In contrast, the social attraction could be language, way of life with local wisdom values, and social gatherings.

## Sustainable Tourism

Purnomo et al. (2020) stated that sustainable tourism uses the concept of stable development that responds to the needs of the current generation without compromising the capacity of the next generation. It does not harm local communities' environment, economy, and culture. According to World Tourism Organization (2011), sustainable tourism considers current and future economic, social, and environmental impacts. In this case, the community is also involved and benefits through income or facilities developed from tourism activities (Polnyotee & Thadaniti, 2015). Junaid (2014) mentioned several things necessary to realize sustainable cultural tourism, including:

1. Tangible and intangible cultural preservation.
2. Maximizing local community involvement and representation.
3. Involvement of tourism stakeholders, including the government, private sector, and community.

## Sociocultural Sustainability

Lee and Hsieh (2016) stated that tourism sustainability has economic, social, cultural, environmental, and institutional dimensions. This study focused on the sustainability of social and cultural activities as community assets and the main potential for tourism in Kampung Jawi. Sociocultural sustainability implies respect for social identity, capital, culture, and assets and strengthening

community cohesiveness and pride (Choi & Sirakaya, 2006). In line with this, Prevolšek et al. (2020) examined the dimensions of social sustainability from social and cultural aspects:

1. The social aspect relates to improving the local community's condition. It is realized through strengthening infrastructure, developing additional tourism products, and interacting with social communities. It is reflected in employment, promotion of local communities, and improving living standards through tourism development.
2. The cultural aspect is reflected in preserving and promoting local traditions by providing various attractions to tourists and enabling their active participation.

Eren (2013) investigated the state of sociocultural sustainability in the Mahalle neighborhood of Turkey. The study found that a well-designed environment facilitates and supports cultural interaction to help realize sociocultural sustainability. Furthermore, Asmelash and Kumar (2019) developed indicators that help assess sustainable tourism development. Five could be used to assess the sustainability of tourism in terms of social and cultural dimensions. These aspects are Social Equity, Visitor Fulfillment, Local Control, Community Well-being, and Cultural Richness. Therefore, the variables and indicators were adjusted to the needs and focus of this study (Table 2).

## METHODS

### Study Area

This study was conducted in Kampung Jawi, Sukorejo Village, Gunungpati District, Semarang City. Kampung Jawi covers the entire area of RW 01 and consists of 7 RT. In Indonesia, administrative areas are divided hierarchically based on the number of households. RW is an abbreviation of Rukun Warga, referring to the area under the village or “Hamlet,” comprising 3 to 10 RT. Similarly, RT is an abbreviation of Rukun Tetangga, referring to the area under the RW (hamlet) or “Neighborhood,”

consisting of 10 to 50 households. In 2020, the total population of Kampung Jawi was 1,628 people. Figure 1 shows the boundaries of the study area.

Kampung Jawi is a thematic village that has developed into a tourist destination in Semarang City. In 2016, the Semarang City Government commenced a thematic village program to alleviate poverty by addressing slum settlement problems and developing local potential (“Kampung tematik”, 2017). The RW 01 area, with the potential of traditional Javanese culture, was appointed as the location for developing

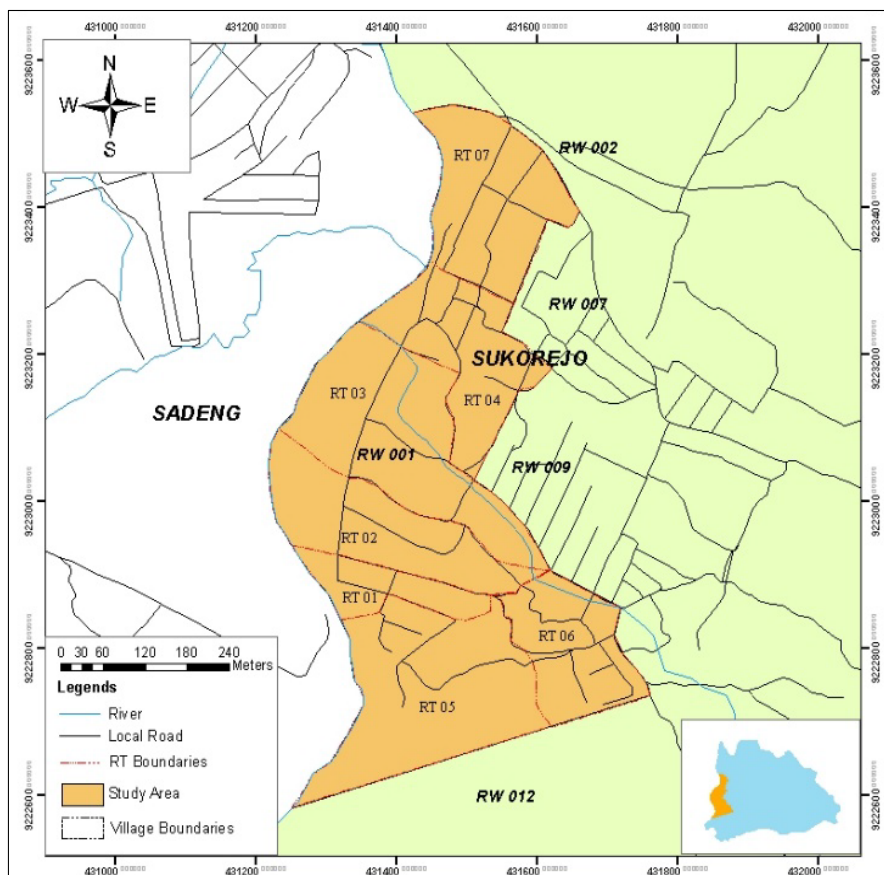


Figure 1. Kampung Jawi as study area

thematic villages in Sukorejo Village. Kampung Jawi's potentials as a thematic village include the following:

1. Annual traditions.
2. A strong culture of *gotong royong* (community cooperation) and kinship.
3. Tightly held and preserved Javanese culture and traditions.
4. There is an art studio called Sendang Asri Budaya for holding Javanese cultural activities.

Kampung Jawi's development as a tourist destination is followed by community empowerment and environmental quality improvement. Tourist attractions have the theme of traditional Javanese culture divided into the Memetri Kampung Jawi tradition, Javanese cultural education, performing arts, and traditional culinary.

**Sociocultural Activities in Kampung Jawi as Tourist Destination.** Sociocultural potentials exist in people's lives (Sukmana et al., 2020) and could support tourism when managed and packaged properly. According to S. L. Putri and Damayanti (2017), sociocultural activities supporting tourism include local culture, wisdom, and management systems. The following activities in Kampung Jawi that support tourism development were held regularly before the Covid-19 pandemic.

**Local Culture.** Local culture includes the implementation of traditions, arts,

handicrafts, and traditional food production (S. L. Putri & Damayanti, 2017). Certain traditions are still preserved in Kampung Jawi, including *Minggu Legi*, *Sadranan*, and *Memetri Kampung Jawi*. Before the Covid-19 Pandemic, these traditions were always held every year and every month. These traditions are the unique values appointed as a tourist attraction. The sustainability of traditions and unique identities must be realized in developing cultural traditions due to the tight competition in the tourism industry (Qin & Leung, 2021). These traditions involve all local communities in their implementation. The *Memetri Kampung Jawi* is held annually in October to commemorate the anniversary of Kampung Jawi. *Memetri Kampung Jawi* is usually conducted in the field by inviting guests of honor and officials. During the Memetri Kampung Jawi ceremony, the Mayor, community leaders, and local people lit 1000 torches as a symbol of burning negative things and replaced them with welfare development (Figure 2a). This tradition involves performing the *Sendratari Dumadining Kampung Jawi* and various other traditional Javanese cultural performances (Figure 2b). The *Sendratari Dumadining Kampung Jawi* is a traditional dance that tells the history of Kampung Jawi, performed by women accompanied by *Gamelan* music. The *Minggu Legi* tradition is a monthly communal prayer ceremony accompanied by cooking as a form of gratitude to God. The *Pasar Jaten* is an activity of buying and selling traditional Javanese food (Figure 2c).

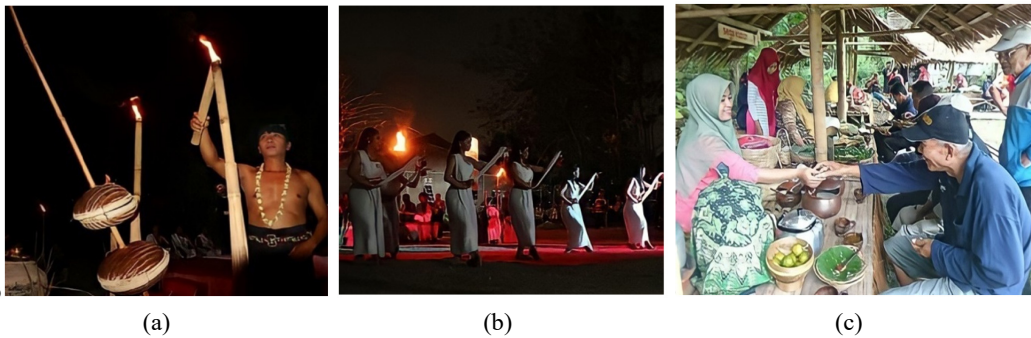


Figure 2. The tradition before Covid-19 - (a) Torch lighting by the community leader during the Memetri Kampung Jawi ceremony, (b) Memetri Kampung Jawi dance performance, (c) Pasar Jaten as a place to enjoy various Javanese traditional culinary

Source: Documentation of Kampung Jawi's Tourism Awareness Group (2019)

Other local cultures are cultural practices and art performances. Cultural practice is held every day alternately between various types of art. Examples include *Jathilan*, *Tek-Tek*, *Karawitan*, *Ketoprak*, *Jemparingan*, and *Tambourine Arts*. In Kampung Jawi, children and youth aged 8–16 participate in cultural preservation, especially *Jathilan* and *Karawitan*. *Jathilan* is a traditional Javanese dance with a horse made of woven bamboo. *Karawitan* is traditional *Gamelan* music that usually accompanies Javanese songs. Furthermore, *Rebana An-Naba* is a hereditary art of singing religious songs with musical instruments, *Gamelan*, and traditional-modern tambourines. The members of the *Rebana An-Naba* group consist of children and adults.

Cultural practice is also one of the tourist attractions of Kampung Jawi. Tourists know and learn traditional Javanese arts through Cultural Education tour packages. Figure 3 show several examples of cultural and educational activities that were part

of tourist attractions before the Covid-19 pandemic. Figure 3a shows a traditional Javanese dance performance, namely *Reog* and *Jathilan* which was held in Kampung Jawi. Figure 3b shows one of the tourist attractions, namely traditional archery education (*Jemparingan*) which can be enjoyed through tour packages. Figure 3c shows traditional Javanese music education (*Gamelan*) which is in great demand by students and young people. They are guided by tour guides comprising artists from various art communities in Semarang City. Cultural education activities are usually performed at the Kampung Jawi Field or the Sendang Asri Art Studio. Art performances are also celebrated to welcome tourists or commemorate major holidays like Independence Day and Islamic Holidays.

Traditional culinary production activities are also conducted daily. The community produces traditional cuisine to preserve the hereditary culture and support tourism development. These traditional

cuisines include snacks (*Gethuk*, *Tiwul*, *Wajik*), traditional drinks (*Wedang Ronde*, *Dawet Ireng*, *Jamu Jun*, *Wedang Rempah*), and main course (*Sego Liwet*, *Sego Kluban*, *Sego Koyor*, *Gendar Pecel*, *Berkatan*). The typical food of Kampung Jawi and the most favored by tourists is *Gendar Pecel*.

It contains rice dough and vegetables with peanut sauce and is topped with *conch satay* (local conch) and served on a stick plate with a banana leaf. The dishes are sold at Angkringan Pinggir Kali every day from 04.00–11.00 PM (Figure 4).

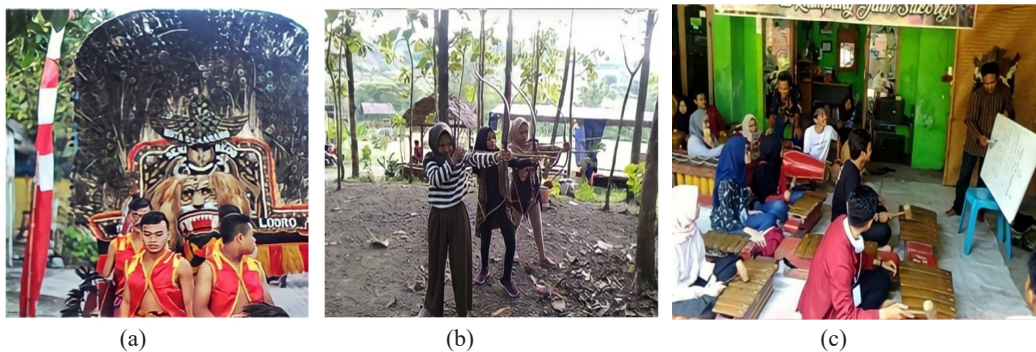


Figure 3. Cultural education and art performance before the Covid-19 pandemic situation - (a) Traditional dance performances (Reog) in the Kampung Jawi tour package, (b) Traditional archery art education (Jemparingan) in Kampung Jawi tour package, (c) Traditional music education (Gamelan) in Kampung Jawi tour package

Source: Documentation of Kampung Jawi's Tourism Awareness Group (2019)



Figure 4. Stalls for traditional food sellers at Angkringan Pinggir Kali

Source: Research team documentation (2021)

Angkringan Pinggir Kali is a favorite attraction and an icon for Kampung Jawi. It carries a unique concept where tourists enjoy traditional cuisine with the feel of old vibes.

The Angkringan has an outdoor concept with lighting using *Sentir*, traditional lamps fueled by kerosene, and lit using fire. The sellers use ancient huts that are thick with

a rustic feel. Furthermore, visitors enjoy traditional live music for urban residents to relax and unwind, making Angkringan Pinggir Kali the best choice. Figure 5 shows Angkringan Pinggir Kali's situation and vibe at night. Visitors reveal that Angkringan Pinggir Kali gives warm, exciting, and relaxing vibes. With their friends or family, visitors can enjoy various traditional culinary while having fun and listening to Javanese songs. Based on information from the area manager, Angkringan Pinggir Kali not only strengthens local community relations but also increases the togetherness and awareness of visitors towards kinship relations.

**Local Wisdom.** Local wisdom includes intelligence, values, decision-making systems, kinship, and local organizations (S. L. Putri & Damayanti, 2017). The local values applied by Kampung Jawi people are the culture of using the Javanese language

in everyday life and at certain events. The people are accustomed to using Javanese in community meetings and important events such as Independence Day ceremonies (Figure 6a). The decision-making system applied to community forums is deliberation. The community's social life is harmonious and preserves the culture of *Gotong Royong* (cooperation). Local wisdom is a wealth of culture that contains life policies and views related to knowledge and wisdom about life (Gursoy et al., 2019; A. Wibowo et al., 2021). Moreover, a life guide or advice from religious and historical figures is applied in people's lives. The guide is called *Dasa Pitutur*, or 10 Javanese philosophies taught by Sunan Kalijaga (Figure 6b).

Another local wisdom is the transaction tool called "Kepeng", the designation of money in the era of the Majapahit Kingdom. Kepeng-shaped flat block made of wood (Figure 7). As a typical transaction, in the middle of Kepeng is a picture of Rumah



Figure 5. Situation in Angkringan Pinggir Kali

Source: Documentation of Kampung Jawi's Tourism Awareness Group (2021)



(a)



(b)

Figure 6. Ceremony uses traditional Javanese protocols and Dasa Pitutur - (a) The national day commemoration ceremony uses traditional Javanese costumes and protocols, (b) "Dasa Pitutur" as the principle of life which is believed to bring humans to prosperity.

Source: Documentation of Kampung Jawi's Tourism Awareness Group (2018), Research team documentation (2021)

Joglo, a traditional house of Central Java, representing Kampung Jawi. Visitors must exchange rupiah with Kepeng at the counter at the exchange rate of 1 Kepeng for 2.000 rupiahs. The average drink price is 1–2 Kepeng, while food prices range from 3 – 4 Kepeng. The local wisdom helps the community show the uniqueness and identity of their tourist villages (A. Wibowo et al., 2021).



Figure 7. Kepeng for payment transactions at Angkringan Pinggir Kali

Source: Research team documentation (2021)

**Tourism Management System.** Kampung Jawi tourism is managed by a tourism awareness group commonly called Pokdarwis Kampung Jawi. This group comprises the indigenous people, most of whom join the management voluntarily. The main role of the Pokdarwis Kampung Jawi is to manage tourism activities, including planning, implementation, monitoring, and evaluation (Kurniati et al., 2021). The involvement of local communities affects the success of tourism development. Through participation, the community expresses its opinions in the planning, implementation, and evaluation stages (Wirahayu et al., 2019). Pokdarwis hold routine meetings, monitors and supervises tourism activities,

welcomes guests, and manage Kampung Jawi tourism's daily operations.

Community-based tourism development provides training for the community as key actors (Wirahayu et al., 2019). Since the people of Kampung Jawi lack adequate knowledge of tourism development, the Pokdarwis Kampung Jawi members are provided several training sessions. The Semarang City, Culture and Tourism Office provide *Sapta Pesona* training, tourism promotion, videography and photography, tour guides, and tourist attraction development. Unlike other places, the training in Kampung Jawi is not only about tourism management. Semarang City culturalists also train the community on how to play Gamelan musical instruments to support cultural preservation. People participating in this cultural training become tour guides in the Cultural Education package.

### Sampling Procedure and Sample Size

This study used a quantitative method to numerically represent the structured data collection and analysis (Goertzen, 2017). The sample involved the local community of Kampung Jawi as part of a population's number and characteristics (Sugiyono, 2015). The population comprised 1.628 people in Kampung Jawi. The number of respondents is determined through the Slovin Formula, considering this research was conducted during a pandemic with a limited population and a narrow area (1 hamlet). The Slovin formula is appropriate because this study used a random sampling approach, and nothing is known about

the population's behavior (Ellen, 2020). The sample consisted of 94 respondents determined using the Slovin formula, with a 10% error tolerance:

$$n = \frac{N}{1 + Ne^2} \quad [1]$$

$$n = \frac{1.628}{1 + 1.628(0,1)^2}$$

$$n = 94.21 \approx 94$$

A proportional random sampling method was used to obtain a sample representing the population's characteristics (Etikan & Bala, 2017). In this technique, samples in each region must be balanced with the number of subjects in the area (Dyah & Yulastuti, 2014). This study examined a sample of the Kampung Jawi community spread over 7 RTs. Table 1 shows the number of samples for each RT.

Table 1

*Number of samples for each RT in kampung jawi*

RT	Number of population	Number of samples
RT 01	252 people	14
RT 02	360 people	21
RT 03	324 people	19
RT 04	280 people	16
RT 05	144 people	8
RT 06	136 people	9
RT 07	132 people	7
	1.628 people	94

*Source:* Sukorejo Village Monograph (2020)

*Note.* RT = Rukun Tetangga, referring to the administrative area under the village consisting of 10 to 50 households.

### Data Collection and Analysis

Data were collected using questionnaires, observations, interviews, and literature studies. The questionnaire was addressed to 94 respondents from Kampung Jawi's local people. The questionnaire distribution aimed to determine the level of sociocultural sustainability during the Covid-19 pandemic from the community's perspective as the main actor in tourism development and cultural preservation. A door-to-door primary survey was conducted with community leaders in each neighborhood to approach the respondents and ask about their willingness to participate in the study. It ensured that the number of respondents was met with more efficient time and energy. The questionnaire was developed based

on the variables and parameters in Table 2. It aimed to answer several questions with a conversion value of 1, 2, and 3. Additionally, observation and interviews were conducted to obtain more information and confirmations.

This study used scoring and descriptive analysis techniques. The descriptive analysis described and explained field conditions. Scoring analysis used a Likert Scale to assess the level of sociocultural sustainability in Kampung Jawi during the pandemic. The Likert scale measures people's perceptions, behaviors, and opinions towards a phenomenon (Amidei et al., 2019). The sociocultural sustainability was assessed based on several parameters represented by questions. Each question

Table 2

*Variables and parameters of sociocultural sustainability in Kampung Jawi*

Variables	Parameters	Scale
Local control	<ul style="list-style-type: none"> <li>Community knowledge about sustainable tourism and cultural preservation</li> <li>Community tourism management system</li> <li>Monitoring and evaluation of tourism operations</li> </ul>	1 = Low 2 = Medium 3 = High
Host community and visitor fulfillment	<ul style="list-style-type: none"> <li>Local community satisfaction with tourism development</li> <li>Community attitudes towards tourism development</li> <li>Host-guest interaction</li> </ul>	1 = Low 2 = Medium 3 = High
Cultural richness	<ul style="list-style-type: none"> <li>Availability of funds and resources for cultural maintenance</li> <li>Cultural preservation activities or programs</li> <li>Cultural training activities for the community</li> <li>Cultural value for tourism development</li> </ul>	1 = Low 2 = Medium 3 = High
Participation	<ul style="list-style-type: none"> <li>Community participation in tourism development</li> <li>Community social activities in public spaces</li> </ul>	1 = Low 2 = Medium 3 = High

*Source:* Adapted from Asmelash and Kumar (2019), Eren (2013)

has three answer choices converted to a score of 1 to 3. The score is higher when the conditions in Kampung Jawi support the sustainability of sociocultural activities. Table 2 shows the variables and indicators used in this study. The four variables assessed are Local Control, Host Community and Visitor Fulfillment, Cultural Richness, and Participation. An internal factor approach was used for Local Control, Host Community, Cultural Richness, and Participation. In contrast, Visitor Fulfillment used external factors

affecting the sustainability of sociocultural activities. The four variables are also suspected to be significantly affected by the pandemic.

The value of sociocultural sustainability is the average value of all variable scores. This value represents the sustainability of sociocultural activities during the Covid-19 pandemic. The level of sustainability is categorized into Low, Medium, and High based on the values and criteria in Table 3.

Figure 8 provides the study framework, from problem formulation to the results.

Table 3

*Level and criteria of sociocultural sustainability in Kampung Jawi*

Total Score	Sustainability level	Criteria
94–157	Low	<ul style="list-style-type: none"> <li>Does not help the preservation of local cultural values.</li> <li>The community is not involved in development activities.</li> <li>Lack of financial and infrastructure resources for maintenance and development.</li> <li>Lack of knowledge and responsibility in tourism development.</li> <li>Does not satisfy local people and tourists.</li> </ul>
158–219	Medium	<ul style="list-style-type: none"> <li>Contribute to preserving local cultural values, but need improvements.</li> <li>Not all community participates.</li> <li>Financial resources and infrastructure are not well available.</li> <li>Limited knowledge and ineffective management.</li> <li>Tourism benefits are uneven, and fewer tourist services.</li> </ul>
220–282	High	<ul style="list-style-type: none"> <li>Supporting the preservation of local cultural values.</li> <li>The community can participate and cooperate with various stakeholders.</li> <li>Supported by financial resources and infrastructure for maintenance and development.</li> <li>The community knows about tourism development and is responsible for its operation.</li> <li>Provide satisfaction for local people and tourists.</li> </ul>

*Source:* Adapted from Arifiani and Mussadun (2016), Kunasekaran et al. (2017), Asmelash and Kumar (2019), Firdausyah et al. (2021)

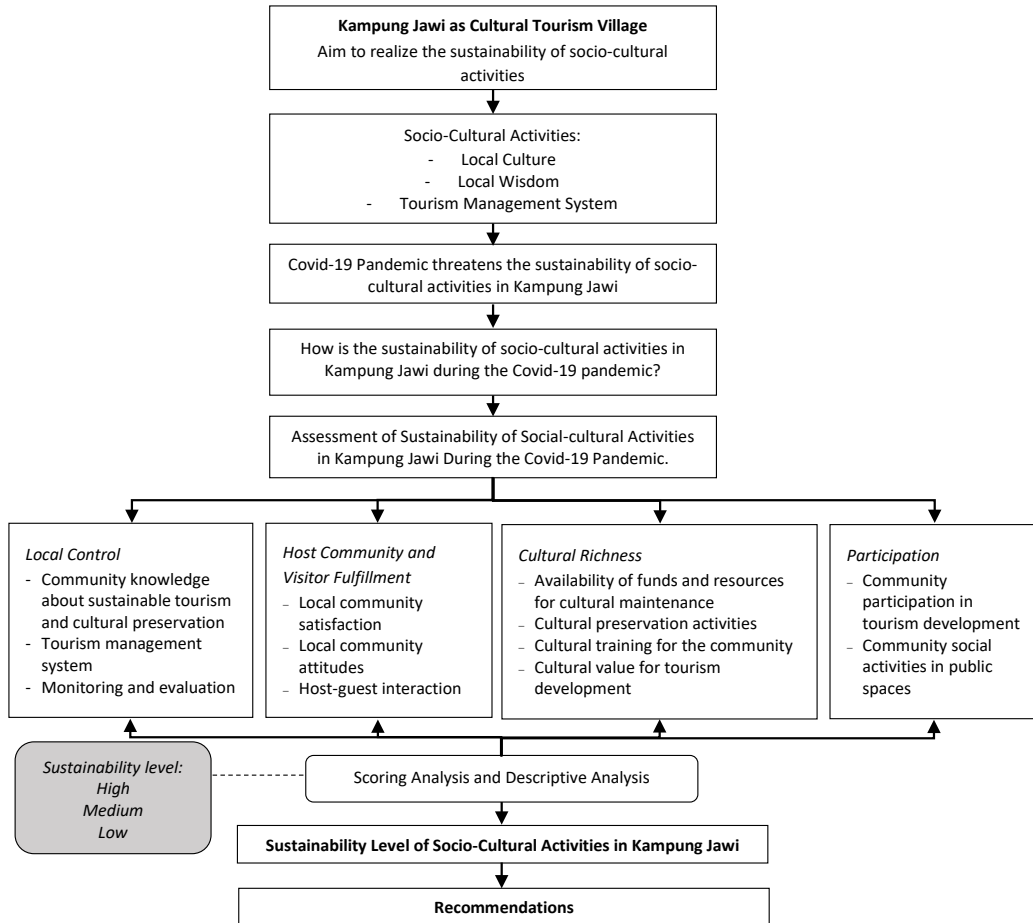


Figure 8. Study framework

## RESULTS AND DISCUSSION

### Sustainability of Community Socio-Cultural Activities in Kampung Jawi as a Tourist Destination During the Covid-19 Pandemic

The sustainability of sociocultural activities in Kampung Jawi during the Covid-19 pandemic was obtained from the questionnaire calculation results. Based on the scoring of the questionnaire distributed to 94 respondents, the overall level of sustainability is “Medium,” with a score

of 205. Table 4 shows the questionnaire calculation results.

The scoring results show that the Host Community and Visitor Fulfillment variables have the highest score of 240 and are included in the “High” sustainability category. During the pandemic, tourism activity was still open and contributed to cultural preservation, and the practice was adapted to the Covid-19 guideline and protocol. The Participation variable obtained the lowest score of 149 and was included

in the “Low” sustainability category. It implies that people are more vigilant by not engaging in joint activities. Also, community participation is more limited by applying a quota system for each joint activity. It causes difficulty in coordinating between community groups and a lack of public understanding of their role in tourism development.

The pandemic significantly restricts tourism and cultural activities, affecting the resilience and sustainability of culture and the creative economy (Flew & Kirkwood, 2021). These conditions restrict the cultural activities integrated into tour packages and people’s daily lives. Consequently, tourism has declined, reducing the monthly income of small and medium enterprises

Table 4

*The scoring result of sustainability of sociocultural activities in Kampung Jawi*

Question Items	Frequency			Score	Variable Score
	1	2	3		
<b>Local Control</b>					
Do you know about sustainable tourism?	22	58	14	180	216 (Medium)
Do you know about community efforts to preserve local culture during the pandemic?	11	68	15	192	
Is the implementation of cultural activities still being discussed together by the community?	6	17	71	253	
Do community groups coordinate well with tourism management during this pandemic?	11	17	66	243	
Are there routine evaluations for tourism activities and cultural preservation during this pandemic?	16	36	42	214	
<b>Host Community and Visitor Fulfillment</b>					
Can tourism development improve environmental quality in Kampung Jawi?	3	54	36	219	240 (High)
Can tourism development in Kampung Jawi help preserve culture and increase community cohesiveness?	7	40	47	228	
Do you support Kampung Jawi tourism being opened during the pandemic?	1	22	71	258	
How is the interaction between local people and tourists during the Covid-19 pandemic?	6	16	72	254	

Table 4 (Continue)

Question Items	Frequency			Score	Variable Score
	1	2	3		
Cultural Richness					
Has the availability of adequate funds supported cultural preservation activities?	9	75	10	189	215 (Medium)
Have adequate facilities supported cultural preservation activities?	5	60	29	212	
Are traditional handicrafts and food production activities still conducted?	4	40	50	234	
Is the tradition of the Memetri Kampung Jawi community still routinely held?	0	48	46	234	
Are cultural events or art performances still routinely held?	3	65	26	211	
Are cultural training activities still routinely held by the community?	12	63	19	195	
Is the local culture still able to attract tourists to come?	2	48	44	230	
Participation					
During the pandemic, were you involved in tourism development planning activities?	59	25	10	139	149 (Low)
During the pandemic, were you involved in the implementation of tourism activities?	51	32	11	148	
During the pandemic, were you involved in supervising and evaluating tourism?	58	26	10	140	
During the pandemic, were you involved in cultural preservation activities?	34	46	14	168	
Sociocultural sustainability score (Average)					205 (Medium)

to only 1.000.000 rupiahs from 3.500.000 rupiahs before the Covid-19 pandemic. These conditions' impact threatens the maintenance of tourism and sociocultural sustainability. The following topic discusses

the sustainability level of community sociocultural activities in Kampung Jawi. The discussion is based on the Local Control, Host Community and Stakeholder, Cultural Richness, and Participation variables.

**Local Control.** Asmelash and Kumar (2019) found that local control is the most influential variable in the sustainability of sociocultural activities. This variable relates to the control of local communities over tourism development and the preservation of cultural heritage. In Kampung Jawi, Local Control on sociocultural activities during the pandemic is included in the “Medium” category with a score of 216. Asmelash and Kumar (2019) stated that local communities lack adequate knowledge at a medium level of sustainability, and their responsibility in operating tourism is constrained. In Kampung Jawi, the local community lacks adequate knowledge about sustainable cultural tourism development. During the Covid-19 pandemic, management activities are not running as they should. The results showed that 62% of the respondents did not know about sustainable tourism during the pandemic. Also, 72% of respondents did not know in detail how to preserve culture during the pandemic. It shows that the people of Kampung Jawi have insufficient knowledge of building sociocultural resilience during the pandemic. Therefore, it is necessary to develop human resources through training, supervision, and empowerment to recover from crises and threats to sustainability (Azhari et al., 2021).

The management and evaluation system of tourism development during the pandemic is still running and well organized. All decisions regarding cultural activities and tourism development are still being discussed with the community. Monthly routine evaluation activities are also held.

However, there are quota restrictions when regarding in-person or online meetings. This system disrupts coordination and often causes a misunderstanding between the roles of the community. Although Local Control variables are sufficient to support sustainability, increasing public knowledge, strengthening coordination and information dissemination, and optimizing supervision are necessary.

### **Host Community and Visitor Fulfillment.**

Host Community and Visitor Fulfillment indicate tourism development's influence on the quality of surrounding communities and satisfaction with tourist destinations (Asmelash & Kumar, 2019; Choi & Sirakaya, 2006; Pérez et al., 2017). The results showed that the variables Host Community and Visitor Fulfillment in Kampung Jawi during the pandemic are in the “High” category with a score of 240. At a high sustainability level, tourism development satisfies the host community and tourists (Uzun & Somuncu, 2015). Sociocultural sustainability could be realized when tourist destinations satisfy the community and tourists and respect the traditional culture (Firdausyah et al., 2021). In line with these findings, tourism activity in Kampung Jawi could still benefit and satisfy the host community and tourists even during the pandemic.

A tourist destination could achieve sustainability by creating economic and cultural development opportunities through various facilities and infrastructure improvements (Hieu & Nwachukwu, 2019). Most people in Kampung Jawi

feel the benefits of developing facilities and infrastructure, though it is not built in all areas. The environmental quality improvements implemented include road repairs, drainage renovations, the addition of vegetation, and road paint. During the pandemic, the environment around Kampung Jawi has health and hygiene facilities. Figure 9a and Figure 9b show some examples of environmental improvement such as Mural paintings with cultural values and provision of cleanliness facility due to the Covid-19 pandemic. Although it is not available evenly in all areas, these facilities meet the requirements for tourism to remain open.

Based on the community's assessment, another benefit of tourism development in Kampung Jawi is cultural preservation and strengthening the sense of community. Several cultures are integrated into tourism activities supported by facilities for preserving traditional Javanese culture. Art and culture studios, fields, and traditional culinary tourism spots serve as cultural preservation spaces. Cultural activities are held during the pandemic, though only at important events and with limited capacity. People are also more concerned about how tourism will survive in the future, and they exchange ideas to find solutions. In line with this, Amerta et al. (2015) found that sustainable tourism must harmonize local communities and work together for one mission.

Tourists still interact with the host community during the pandemic and get the best services. They visit while still



(a)



(b)

Figure 9. Environmental improvement in Kampung Jawi - (a) mural painting with cultural values, (b) cleanliness facility (hand washing facility)

Source: Research team documentation (2021)

implementing health protocols, wearing masks, and obeying the rules regarding adapting new habits at tourist destinations. The Host Community and Visitor Fulfillment variables showed that Kampung Jawi tourism satisfied the community during the pandemic by improving environmental quality and protecting cultural preservation. Also, the need for tourist services was still met properly.

**Cultural Richness.** Asmelash and Kumar (2019) showed that cultural richness relates to managing and utilizing cultural potential. It also applies to other factors that support cultural preservation, such as the availability of funds, facilities, and education. The community assessed the cultural richness in Kampung Jawi based on the challenges of the Covid-19 pandemic. This study measured cultural richness using the availability of maintenance resources, cultural preservation, training, and the contribution of cultural values to tourism development. The results showed that the Cultural Richness variable is in the “Medium” sustainability category with a score of 215.

Uzun and Somuncu (2015) stated that tourism activities at the medium sustainability level could not support cultural value protection maximally due to limited funds and facilities. This study found that adequate resources do not support cultural preservation in Kampung Jawi.

The funds available to support cultural preservation are still limited. Sources of funds come from community contributions to artistic activities such as musical arts, tambourines, and jathilan. Furthermore, supporting facilities for cultural activities are still inadequate. Cultural practice and education were held at the Sendang Asri Budaya Studio, the home of the Head of RW 01 (Figure 10a). Art performances were held in the field of Kampung Jawi, the large yard of the residents’ houses, or the alleys around Kampung Jawi (Figure 10b).

From cultural preservation activities and cultural training parameters, the current conditions are not conducive to various cultural preservation and training activities. It is because the Covid-19 pandemic imposes restrictions on activities with many people. The pandemic has significantly impacted tourism and culture, with restrictions on movement and travel, outdoor activities, and large gatherings (Flew & Kirkwood, 2021). Sociocultural activities originally



*Figure 10.* The location of cultural activities in Kampung Jawi - (a) Sendang Asri Budaya Studio, (b) Tourist attraction area around Angkringan Pinggir Kali

*Source:* Research team documentation (2021)

applied in daily life, such as art training and community meetings, were reduced in intensity or even stopped.

Consequently, cultural practices are only conducted before important events and community meetings are held when an urgent need arises. The implementation of the annual Memetri Kampung Jawi tradition during the Covid-19 pandemic was canceled.

Cultural preservation under normal conditions is integrated into tourism activities through cultural education, art performances, traditional culinary, and traditions. These events could promote cultural heritage and maximize social interaction between local communities and tourists (Azhari et al., 2021). However, only traditional culinary attractions were maintained during the Covid-19 pandemic, while other attractions were abolished. It decreased the impression and nuance of culture in Kampung Jawi. Artistic and cultural instruments are also not maintained

because they are rarely used. Although there are restrictions on cultural activities, cultural values still attract tourists. The traditional food and local wisdom being applied are strong pull factors.

Figures 11 and Figures 12 – 13 show the differences in tourist attractions before and during the pandemic. Figure 11 shows the various tourist attractions offered before the Covid-19 pandemic. There are art festivals, cultural education, traditional culinary, and holding annual traditions. These attractions attract people who can try, visit, and see lively attractions. However, different conditions occurred after the Covid-19 pandemic. The only attractions offered during the pandemic are traditional culinary implementing strict health protocols (Figure 12). The number of visitors is limited daily to prevent crowds and reduce the risk of coronavirus transmission. Cultural activities had to be stopped, and left cultural tools abandoned (Figure 13).



(a)



(b)

*Figure 11.* Various tourism attractions before the Covid-19 pandemic - (a) Javanese traditional music education in tour packages before the Covid-19 pandemic, (b) The atmosphere at Angkringan Pinggir Kali before the Covid-19 pandemic without restrictions on interactions and the number of visitors

Source: Documentation of Kampung Jawi's Tourism Awareness Group (2019)



Figure 12. Angkringan Pinggir Kali as the only tourist attraction that is still open during the Covid-19 pandemic with the strict health protocol

Source: Research team documentation (2021)



Figure 13. The cultural instrument that is not maintained during the Covid-19 pandemic

Source: Research team documentation (2021)

**Participation.** The sustainability of sociocultural activities in a tourist destination is supported by the role of local

communities as the main actors in tourism development. Utami and Mardiana (2017) showed that local community participation significantly relates to social and cultural sustainability. Community participation in tourism development is divided into decision-making, implementation, enjoying the results, and evaluation. The results showed that the Participation variable in Kampung Jawi is in the “Low” sustainability category, scoring 149. Low participation is indicated by the lack of role and involvement of local communities in tourism development and sociocultural activities organized by managers and other stakeholders (Utami & Mardiana, 2017).

In tourism development, 63% of respondents did not participate in planning activities. Furthermore, 54% and 62% did not participate in tourism implementation and supervision. Community involvement in cultural preservation activities is in the “Medium” category. As many as 15% of respondents always participate in cultural preservation, 49% participate rarely, and 36% of respondents do not participate. The data show that only a small part of the community participates in cultural preservation activities.

Several factors cause low community participation in tourism development and cultural preservation. One of the most influential factors is the limitation of the people allowed to attend tourism development activities and cultural preservation. These restrictions are the impact of the Covid-19 pandemic that requires crowd prevention. Moreover, the

low community participation is caused by a lack of knowledge or skills and other activities. Community participation in tourism development and sociocultural activities in Kampung Jawi is low. The Covid-19 pandemic has restricted public participation. There are restrictions on the number of people in sociocultural activities. For instance, community meetings that initially involved 100–150 people were attended by 25–50 people during the pandemic. Additionally, the pandemic has stopped joint activities, such as cultural practices, limiting the community's participation.

### **Sustainability Level of Sociocultural Activities in Kampung Jawi**

The scoring results showed that the sustainability of sociocultural activities in Kampung Jawi is in the “Medium Sustainability” category, scoring 205. The conditions of each variable have influenced this level during the Covid-19 pandemic. At the “Medium Sustainability” level, tourism development could contribute to preserving local culture, but it would take more effort to achieve a high sustainability level (Arifiani & Mussadun, 2016; Weng et al., 2019). Conditions in Kampung Jawi indicate that the Covid-19 pandemic hampers cultural preservation activities. Many routine cultural activities and those integrated into tourism are stopped. Therefore, the Cultural Richness aspect of a pandemic is also in the “Medium” category.

During the pandemic, activities involving gathering people should be

avoided to prevent virus transmission. Covid-19 has stopped cultural training activities usually organized by the younger generation and integrated into tourism. According to Asmelash and Kumar (2019), informal education and regeneration for cultural preservation are essential indicators of sociocultural sustainability. Therefore, Covid-19 has impacted people's efforts to maintain their cultural assets now and in the future. It must be considered since sociocultural activities are an image and branding of Kampung Jawi tourism.

At the “Medium Sustainability” level, financial resources and supporting facilities are insufficient to achieve sociocultural sustainability (Kunasekaran et al., 2017). Conditions in Kampung Jawi indicate that financial resources are limited for tourism development and cultural preservation. Furthermore, health and hygiene facilities for adaptation during the Covid-19 pandemic are still inadequate. Funding for Kampung Jawi's development depends on the village government's stimulants, tourism economic activities, and the community. Covid-19 has weakened economic activity in the tourism sector and impacted village income. The village's income was reduced by 50%, limiting Kampung Jawi's ability to provide various cultural and health facilities.

Medium Sustainability is indicated by the lack of or inadequate community participation in tourism and cultural development (Kunasekaran et al., 2017). The people of Kampung Jawi's participation in the pandemic is decreasing due to the restrictions on community involvement in

various activities. Furthermore, internal factors such as limited knowledge or skills and other activities cause low participation. The low level of community knowledge and skills hinders the management of cultural resources (Asmelash & Kumar, 2019).

Despite the challenges of the Covid-19 pandemic, tourism activities in Kampung Jawi continue to boost the economy and preserve culture. The assessment of sociocultural sustainability showed that Kampung Jawi was still conducive to sustainable tourism during the Covid-19 pandemic. However, more efforts are needed to improve the sustainability and resilience of tourism during the pandemic, especially in sociocultural activities.

## CONCLUSION

This study aims to assess the level of sociocultural sustainability in Kampung Jawi as a tourist destination during the Covid-19 pandemic. The people preserve their cultural heritage by implementing traditions and cultural activities. Angkringan Pinggir Kali and the Memetri Tradition are tourist attractions found nowhere else. The community's social values and local wisdom also become complementary tourism attractions. This study found that the pandemic significantly impacted sociocultural activities and community participation. The sustainability of community sociocultural activities is included in the "Medium" category with a score of 205. The community's social and cultural sustainability should be emphasized, especially in developing community based

tourism. Furthermore, the sustainability of sociocultural activities in Kampung Jawi did not reach the "High" level due to internal factors. These factors include limited financial resources and facilities and insufficient knowledge or skills of the community.

The current condition must be considered to increase the sustainability level of sociocultural activities in Kampung Jawi during the pandemic. There are four approaches to realizing sustainable tourism and increasing community participation: spatial approach, sectoral approaches, increasing human resources, and using information technology. The spatial approach is implemented through physical development which is adaptive to the Covid-19 pandemic. Development should consider the arrangement of design elements, the availability of health facilities, circulation for tourists and local communities. Moreover, the fulfillment of space needs for cultural preservation could be done in stages, starting with cultural arts studios. The sectoral approach implies managing resources and products through village financial institutions. Resources and products are managed professionally to generate profits for funding tourism development. Regarding the third approach, the quality of human resources could be improved through non-formal education and training on tourism resilience and sustainability. In this case, the city-level government is important in providing stimulants. The use of information and communication technology plays a major

role in promotion, image branding, service quality and community participation improvement, and virtual communication. Therefore, all stakeholders in the tourism sector must collaborate to make the industry resilient enough to face the crisis during the Covid-19 pandemic.

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*Case Study*

## **Can There be a Paradigm Shift in the Indian Education System? An Analysis of Socio-Economic Challenges in Implementing National Education Policy 2020**

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### **ABSTRACT**

The government of India has initiated an ambitious reform of the education system in the country with the National Education Policy 2020. This marks the third education policy post-independence, aimed at ensuring inclusive and equitable quality education for all. The latest policy promises a revamp of the Indian education structure by formalizing pre-primary schooling, promoting multidisciplinary learning, academic freedom, and creating a more comprehensive, liberal, choice-friendly, and job-oriented education system that aligns with global standards. This paper briefly examines the major changes proposed in the policy for primary education and assesses the extent to which the Indian education system can adapt to fulfil the policy recommendations, given the prevailing socio-economic conditions in the country. This study highlights the hindrances to implementing the National Education Policy 2020 in India, including socio-economic challenges, health and digital access issues. It emphasizes the need for political will, investment in infrastructure and teacher capacity building, collaborative efforts, and careful consideration of potential risks to ensure the policy's success and avoid harm to future generations and society.

*Keywords:* Early childhood education, Indian education system, National Education Policy, pre-primary schooling, socioeconomic challenges

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### **INTRODUCTION**

“The state shall endeavour to provide... free and compulsory education for all children until they complete the age of fourteen years.”

—Article 45 of the Constitution of India

In line with the aforementioned directive principle of the Indian Constitution, the Government of India enacted the Right to Education Act (RTE) in 2009, making education a fundamental right under Article 21A. This act ensured free and compulsory education to all children aged 6-14 years. The United Nations (UN) also recognizes education as a universal human right, as stated in Article 26 of the Universal Declaration of Human Rights, which reads: "Everyone has the right to education. Education shall be free, at least in the elementary and fundamental stages. Elementary education shall be compulsory." To address India's challenges, requirements, and opportunities in the 21st century, the Government of India introduced an ambitious National Education Policy (NEP) in 2020. The NEP aligns with the spirit of the UN's declaration of human rights and Sustainable Development Goal 4, aiming to ensure inclusive and equitable quality education and promote lifelong learning opportunities for all by 2030. Education is crucial for any government, as it is fundamental to achieving full human potential, developing an equitable and just society, and promoting national development.

Providing universal access to high-quality education is a crucial factor in the economic development and equitable social order of any nation. However, despite a well-designed policy, several on-the-ground challenges may hinder achieving its aims. One of the significant reasons for

such hurdles is the diversity in children's socio-economic backgrounds. These factors impact not only the children's early years of schooling but also their long-term career outcomes (Alam, 2021, 2022; Alam & Forhad, 2022). Thus, it becomes imperative to assess educational policy through the socio-economic lens of the country.

The recently launched National Education Policy 2020 proposes a structural overhaul at every level of education, including primary, secondary, and higher-secondary schooling. However, this paper focuses solely on primary education, as these early years of schooling are crucial for preparing a child for lifelong learning. While the policy introduces some new and ambitious structural changes, it also reiterates some suggestions from earlier policy documents. Therefore, it is essential to investigate the reasons and possible solutions for the decade-old challenges in implementation. This paper examines the major changes proposed by the policy related to primary education and delves deeper into the challenges of implementing it in Indian society, considering the prevailing socio-economic scenario. The first section analyses three major changes proposed by the policy, along with some key caveats related to the recommendations. The following section highlights the significant challenges in implementation from the legal, social, economic, health, and nutritional perspectives. Finally, the paper presents some possible suggestions for implementation.

## MAJOR CHANGES PROPOSED IN SCHOOL EDUCATION

One of the significant changes proposed by the NEP for school education is the inclusion of preschool (ECCE) in formal schooling by transforming the existing 10+2 structure to 5+3+3+4. This change means that formal schooling will now cover children from the age of 3 to 18 instead of 6 to 14. The focus will be on helping children equip themselves with 21st-century skills, such as learning new subjects like coding, multiple languages, and greater flexibility in choosing subjects. Apart from the structural changes, the policy also aims for the holistic development of children by proposing the inclusion of co-curricular and extracurricular activities in the regular school curriculum. To promote experiential learning through community activities and involvement, the curriculum content will be reduced. Additionally, the policy takes into account the psychological pressure of board exams and proposes to transform the current assessment system to make evaluations more student-friendly.

### Inclusion of Pre-Primary

The most important and discussed change in the National Education Policy 2020 is the inclusion of early childhood care and education (ECCE) in formal schooling. Pre-primary education, covering children between 3-6 years old, will now be a part of formal schooling, recognizing the paramount importance of the initial childhood years in cognitive development. Research suggests that almost 90% of the brain develops

before the age of six, making this phase critical for cognitive, motor, linguistic, and socio-emotional development, which lays the foundation for acquiring more complex abilities later in life (Brown & Jernigan, 2012). Therefore, a strong focus on ECCE is crucial for children to reach their full potential and become knowledgeable citizens, which are prerequisites for any country's development. Investing in early childhood programs has also been found to be more cost-effective and impactful than targeting the older age group, improving both educational and socio-emotional aspects (Garcia et al., 2016).

NEP-2020 proposes that ECCE will focus on flexible activity-based learning to develop children's inquiry spirit through counting, colours, shapes, and puzzles. Teaching and learning will involve indoor and outdoor play, cantering on developing cognitive and motor abilities in young children. Activities such as painting, drawing, craft, drama, and music will be introduced to promote cognitive and motor development. The policy also aims to lay the foundation for developing social capacities by proposing activities cantered around sensitivity, cleanliness, good behaviour, and cooperation. The overall aim of ECCE is to develop socio-emotional-ethical abilities along with basic numerical and language skills for well-balanced cognitive and motor development. This program will act as an initiation for children, preparing them for Grade 1 in the formal schooling process.

The NEP proposes that the National Council of Educational Research and

Training (NCERT) will develop a 'National Curricular and Pedagogical Framework for Early Childhood Care and Education (NCPFECCE),' which will serve as a guideline for parents and early childhood education institutions. The policy suggests implementing this program in a phased manner through various *Anganwadi* centres (a kind of rural childcare centres), established as part of Integrated Child Development Services (ICDS), for universal access to ECCE. *Anganwadi* workers will be trained accordingly, and basic infrastructure will be provided to the centres. The current structure and capacity building of *Anganwadi* workers will be strengthened. The responsibility for planning and implementing this program will lie with the Ministry of Education, with collaborative efforts between various ministries at the Centre and States, including Education, Health and Family Welfare, Women and Child Development, and Tribal Affairs.

**Key Caveats Related to Pre-Primary Inclusion.** The overarching goal of providing high-quality ECCE across the country is a very ambitious and welcoming move. However, challenges lie with implementation, as with any policy that looks good on paper. ECCE is proposed to be implemented with the help of the existing structure of ICDS and *Anganwadi* workers. While the ICDS program currently includes pre-primary education for children aged 3-6, its primary focus has been on providing supplementary nutrition given the socio-economic conditions of the children

attending its centres. The state's intervention during early childhood was initiated through ICDS, a flagship program of the Government of India launched in 1975, focusing on children's health, nutrition, and education. However, despite being the world's largest early childhood program, ICDS only covers less than half of the children in the age group. According to the 2011 census, there are nearly 158 million children aged 0-6 years, of which nearly 75 million are aged 3-6 years. However, according to the Government of India's official data for the year 2019-2020, there were only nearly 25 million children enrolled in *Anganwadi* centres for ECCE.

One major reason for the low number of children enrolled in ECCE programs is that the ICDS program mainly focuses on supplementary nutrition and children's health, not their education. Furthermore, *Anganwadi* workers, the program's frontliners, are not well-trained in early childhood education. According to the Government of India (2017), they receive only five days of training and are expected to prepare children for formal schooling. Due to the abysmal failure of ICDS centres in this respect, nursery schools have mushroomed, mainly in the private sector, catering to pre-primary children. However, due to a lack of formal standard operating procedures and guidelines, the result is not conducive and sometimes even disruptive to the spirit of ECCE. The NEP proposes to change this by formalizing pre-primary education with common curricula and quality checks, intending to provide a seamless educational

experience for children from age three onwards. However, some educationalists fear that without proper implementation strategies, this program will only serve as preparation centres for small children for further formal schooling ahead. Majumdar et al. (2021) observe that existing pre-primary centres mainly focus on formal instruction for literacy and numerical abilities, neglecting the development of various cognitive abilities. They argue that preschool should be about cultivating and valuing diverse cognitive abilities and multiple intelligence, which is neglected in the current private or public ECCE centres.

Another concern is related to the main facilitators of this program, i.e., *Anganwadis*. There is an urgent need to substantially increase the financial and administrative attention given to *Anganwadis* for ECCE. *Anganwadi* workers are not regular government employees and receive an honorarium instead of a salary. They are not equipped with the necessary training for ECCE and are often involved in non-ICDS duties such as maintaining registers or conducting surveys. The NEP proposes to provide six months to one year of training and certification to these workers, but it is doubtful how a six-month trained person will be able to cultivate young minds with proper care and attention when the aim is to make pre-primary education as formal as the existing primary education.

### **Multilingualism and the Medium of Instruction**

The NEP proposes educating children

in their mother tongue at least up to the primary level (until grade 5) and preferably until the middle level (grades 5-8), and offering India's native classical languages such as Sanskrit, Pali, and Prakrit, as well as some foreign languages, at the secondary level (grades 9-12). This proposal has been maintained in almost all educational policies in India and has been validated through various studies and by educationists worldwide. Numerous studies show that children grasp initial learning more quickly in their home language/mother tongue. Benson (2005) notes that when children are exposed to content delivered in their mother tongue/home language, they can learn new concepts quickly because teachers and students can interact naturally and negotiate meanings together, creating a learning environment that is conducive to cognitive and linguistic development. Hence, it is commendable that NEP encourages a bilingual approach that includes both content and instruction, meaning that textbooks as well as instruction should be in the mother tongue/home language. NEP-2020 also emphasizes that "a language does not need to be the medium of instruction for it to be taught and learned well." It has also been claimed that training in basic literacy and communicative skills in the home language (L1) is useful in learning a second language (L2) because some of the basic concepts and skills learned in L1 can be accessed and used while learning L2 (Lanauze & Snow, 1989).

Before India was colonized by Britain, most educational activities were conducted in native Indian languages. However, Lord

Macaulay, a British governor of India, introduced English to the Indian education system and argued that it was important to do away with Persian and Sanskrit. He believed that English was necessary for the “intellectual improvement” of Indians (National Archives of India, 1965). Since then, Indians have associated their knowledge of English with intelligence. English was used to dominate over the native population and culture by declaring native practices as roadblocks to the development of the country. Indians became obsessed with English, leading to a correlation between knowledge of the language and intelligence. Even now, English-medium schools are preferred over schools that use the mother tongue due to growing demand in the job market (Sreekanth, 2021). However, academics advocate for teaching children in their mother tongue early in school. It is observed that children do not develop adequate cognitive skills when the medium of instruction is not their first language (mother tongue). For instance, Filipović (2018) points out that people think in their first language even when they use a second language. They may not be able to grasp a concept adequately or engage in rich inferential thinking when they learn it in a language that they need to learn. This problem is particularly serious for first-generation learners who are not initially exposed to English at home. It leads to rote learning and mere memorization of concepts instead of understanding them.

Therefore, many educationists advocate that children’s initial education should be

conducted in their mother tongue. According to Benson (2005), using a familiar language to teach beginning literacy “facilitates understanding sound-symbol or meaning-symbol correspondence.” She claims that students learn to read most efficiently when they know the language. Therefore, from the very beginning, children begin to discover the meaning in what they are reading, unlike in L2, where they merely read and memorize. Initial instruction in an alien language generally hinders children from developing higher-order thinking skills as they do not naturally participate actively in the learning process. In a similar study by Cummins (1992), it was observed that it becomes much easier to learn a new language after acquiring foundational literacy and communication skills in the mother tongue. Hence, it would be wiser to use the mother tongue for early grades and then introduce L2 after a few years.

In light of the previous discussion, NEP-2020 proposes using the mother tongue as a medium of instruction until at least Grade 5. Along with this provision, the NEP also envisages implementing the three-language formula, initially introduced by NEP 1968, to promote multilingualism and national unity. NEP states that there will be greater flexibility in the three-language formula, and no language will be imposed on any state, as ‘Education’ is a subject on the concurrent list. These three languages will be the choice of state governments, regions, and students, as long as at least two languages are native to India. To implement this vision, NEP invites efforts from central and state

governments to invest heavily in developing bilingual learning content and recruiting language teachers. It emphasizes the use of technology and projects/activities to make learning more interactive and enjoyable for children. It also raises concerns about promoting classical languages of India, such as Sanskrit, Tamil, Telugu, Kannada, Malayalam, Pali, Persian, and Prakrit. Besides classical Indian languages, the NEP proposes to offer various foreign languages such as Korean, Russian, French, Thai, German, and Spanish at the secondary level to meet students' global interests and aspirations.

#### **Key Caveats Related to Multilingualism.**

Although the whole idea of multilingualism and initial instructions in the mother tongue seems promising for developing foundational literacy skills and enhancing children's cognitive skills, the real challenge lies in its implementation due to the vast linguistic diversity in Indian society. Language plays a crucial role in India's national integration. There are 121 recognized native Indian languages, and 22 of them are included in the eighth schedule of the Constitution (Government of India, 2022). Even though Hindi has the largest population of speakers (48%), English continues to be the official language and a medium of communication across the country. If colonialism brought English and made it the common language of communication, it would continue its role even after seventy years of independence. This can be partially explained by the fact that English promises global integration

and upward social mobility. It also became the primary nationwide spoken language because it helped ease inter-state migrations, as there are English medium schools in every state. However, education in India is a subject on the concurrent list, which means both central and state governments have an equal stake in implementing any policy. Many states in India follow only a two-language system in public schools, and English is still the main medium of instruction in private schools. Furthermore, many non-English-speaking states in India have started setting up English-medium schools (Jain, 2017). For instance, the Andhra Pradesh Government (Telugu-speaking state) recently made English compulsory for all government schools. Therefore, until English remains the most sought-after language, schools, parents, and teachers will continue to use English as the primary medium of instruction.

However, there are also those who view mother-tongue-based schools as problematic (D'souza, 2022; Shepherd, 2020; Vij, 2020). For instance, Shepherd (2020) observes that prioritizing native languages over English may deepen the class divide in Indian society. He analyses that before Macaulay introduced English, most educational institutions used Sanskrit and Persian as the medium of instruction. These institutions were reserved for *dwijas* (mainly *Brahmins*) and wealthy Muslims, while *shudras*, *dalits*, and *adivasis* (tribal communities) in India were not allowed to have school education. Furthermore, he observes that after the introduction of English-medium institutions,

*dwija* Hindus were the first to receive English education and become officials and clerks in the British government. He argues that English has been the language of the ruling class for ages and that it allows *dalits* and marginalized classes to rise and stand equally with the higher classes. Since English is an accepted global language, most of the new scientific knowledge is produced in English. Therefore, he contends that unless all children can read and write in one national and international language, i.e., English, creating a national and advanced intellectual discourse will not be possible.

NEP recommends mother tongue as the medium of instruction for public and private schools, but it is binding on public schools only, which means children from affluent families will continue to be educated in the English medium. The growing trend in the country is that most wealthy parents send their children to English medium private schools along with tuition and/or coaching, while poor children only have the option of public schools. If public schooling gives much more importance to the native language, poor children will never be able to compete with those from privileged backgrounds who receive an excellent education in private schools and are schooled in English from their homes. The experience of the State of Kerala is interesting in this regard. Ameerudheen (2018) reports that many public schools in Kerala were on the verge of closure due to a lack of students, but there was a turnaround in their fortunes when they started offering English medium education. Further, logistical difficulties that

arise from inter-state migration need to be considered. Having a native language as the medium of instruction might be problematic for children whose parents frequently shift to different states. That is why government employees who often get transferred to different language-speaking areas send their children to English medium schools so their studies will not be affected.

Given the aforementioned concerns, it is important for the central and state governments to make a full commitment to proper planning. If children begin learning in their home language, it can be highly beneficial for their cognitive, literary, and intellectual development. However, it is equally crucial to ensure that children become proficient in English from an early age to ease their transition to an English medium of instruction in higher classes. Hence, sufficient attention must be paid to ensure that children become early bilinguals so that their proficiency in a second language is not compromised.

### **Curricular Integration of Academics and Non-Academic Skills**

NEP proposes to eliminate sharp divisions among 'curricular', 'extracurricular', or 'co-curricular' subjects and remove the strict boundaries among different streams of secondary education, such as arts, sciences, and commerce. Students will be able to choose a variety of subjects across any discipline based on their interests and needs. The policy also advocates adding crafts and vocational skills to the regular school curriculum. Such a multidisciplinary

approach will promote the all-round development of children and contribute to the country's economic growth. However, this transformation can only be successful if higher education institutions follow suit. For example, if prestigious institutions like IITs or NITs continue to focus solely on scientific domains, students will choose science subjects by default during secondary school. Additionally, despite English and Hindi being compulsory subjects in twelfth grade, students tend to focus on physics, chemistry, and maths/biology because they know that it will pay off in entrance examinations. Therefore, unless the admission process to universities and higher education institutions is reformed, languages and soft skills may continue to be neglected. NEP also acknowledges that the single-stream system sometimes creates hierarchies among various streams, with science streams viewed as superior to commerce or arts.

NEP proposes to offer multiple non-academic subjects such as physical education, ethics, and the constitution at all class levels, as well as a wide variety of vocational courses and choices of arts and crafts at the secondary level. The curriculum will be tailored according to the interests of the children and the requirements of the localities. NEP aims to develop 'fun courses' during the middle level (grades 6-8) that provide hands-on experiences in various vocational skills such as gardening, pottery making, carpentry, and electrical work. This will consist of a 10-day bag-less period where students will intern with local experts

in a particular vocational skill. Similar vocational skill internship opportunities will also be available to secondary-level students (grades 9-12). NCERT will design these practice-based curricula and content. NEP emphasizes learning these vocational skills to become successful, innovative, and productive human beings, acknowledging the requirements and demands of the 21st century by including contemporary subjects in the curriculum, such as Artificial Intelligence, Design Thinking, Coding, Holistic Health, Organic Living, Environmental Education, and Global Citizenship Education.

### **Key Caveats Related to Curricular Integration.**

Providing a vast array of options for academic and non-academic subjects and flexibility in choosing different streams/subjects/skills is a positive and welcome move. Breaking the rigid streams of arts, science, and commerce will undoubtedly assist in the holistic and all-around development of students' knowledge and personalities. Offering vocational training at the school level may be beneficial for economic contribution to society. However, a genuine concern is that it may increase child labour and dropouts. Students will be allowed to intern at local businesses and with local entrepreneurs, raising safety issues, particularly for girls. Economically weaker children may opt for employment after vocational training and never continue their formal education. This could deepen caste and economic-based inequalities in Indian society as wealthy

families typically prioritize higher education level exams/jobs such as IITs, IIMs, Medical or IAS, and not vocational training. Most school dropouts occur because students have to support their families financially, so providing skill-based training during middle grades might lead to a situation where they do not continue with secondary school. Some experts suggest that imparting vocational education may allow children to drop out of formal school at various levels (Gudavarthy, 2020), leading to reproducing and strengthening existing social hierarchies and opportunity structures. However, NEP assures that vocational training will increase the dignity of labour, but it might reinforce caste-based occupations and strengthen the pyramid-like social structure.

Removing the rigid boundaries between arts, science, and commerce will not be very useful unless changes are made to the entrance examinations after secondary school. For example, the IITs entrance exam only includes Physics, Chemistry, and Maths. If this is still the case, most students who aspire to get into these prestigious institutions will only choose the relevant subjects, and the vision of holistic development might not be fulfilled. Additionally, the proliferation of coaching institutes for entrance examinations will continue to flourish, with wealthy children having an advantage over poorer ones.

## CHALLENGES IN IMPLEMENTATION

### Legal Challenges

NEP 2020 proposes expanding the

universalisation of education from pre-primary to secondary grades, which includes children between ages 3 to 18. However, it is silent on amending the Right to Education (RTE) Act, which only provides free and compulsory education for children aged 6-14. This vision cannot be achieved without extending the RTE Act's boundary to include children from 3-18 years. The lack of these changes being made a legal right makes it difficult to achieve universalisation, particularly for girls and dropped-out children. It should be noted that the initial draft of NEP 2020 suggested an extension of the Act to cover children from 3-18 years, but this was not included in the final version. According to an NDTV article on July 30, 2020, the final version of the policy proposes universalisation of school education for 3-18 years, but it is not a legal right. Due to the lack of legal support, it will not be mandatory for central or state governments to implement it. Significant numbers of girls drop out of school after elementary school, especially during secondary school. Therefore, without binding the government to provide secondary education, it will be challenging to achieve complete universalisation of education.

NEP also proposes changing the current system of evaluation from a marks-based assessment to testing of conceptual understanding. To achieve this, NEP proposes the formation of a national-level assessment centre called PARAKH (Performance Assessment, Review, and Analysis of Knowledge for Holistic Development). The goal is to

remove annual exams and have board exams in grades 3, 5, and 8, in addition to the existing board exams in grades 10 and 12. However, some experts, such as Rampal (2020), argue that this new structure violates the RTE Act, which bans children from being subjected to any board exams until grade 8. Additionally, policymakers have acknowledged that various state laws may hinder the implementation of NEP, and without a new legal framework, NEP cannot be implemented in its true spirit (“Change State Education Laws before Applying NEP: Delhi Minister,” 2022). Education in India is a concurrent subject, and different states have laws for imparting education in their respective states. Therefore, an inclusive and integrated educational scenario envisaged by NEP cannot be achieved until amending age-long state rules and creating a new legal framework for the pan-India level.

### **Social, Economic, and Aspirational Challenges**

Implementing the NEP policy will be challenging due to India’s significant socio-economic disparities. Educational institutions have a crucial role in reducing social differences and discrimination among students and promoting equality (M. S. Roy, 2020). However, the NEP is largely silent on addressing issues related to caste and socially and economically disadvantaged groups (SEDGs). Although it does acknowledge that learning about caste and Adivasi conditions, as well as the history of discrimination and violence, is necessary to understand affirmative action.

The caste or gender-based divide is a significant social problem in Indian society, and there are concerns that the emphasis on digital education after the COVID-19 pandemic may exacerbate segregation and inequality.

Many people in India lack access to smartphones and proper internet, which particularly affects economically weaker and rural children. According to the latest Annual Status of Education Report (ASER), only 63.7% of children enrolled in public schools have a smartphone at home, compared to 79% of children enrolled in private schools (Pratham Education Foundation, 2021). Moreover, smartphone access to children is limited as in many families, only one smartphone is available and multiple people use it. In addition, access to laptop/desktop computers is also very limited. NEP proposes to teach coding from Grade 6, but very few public schools have computers and internet facilities for students. For instance, only 10% of public schools have internet connectivity, compared to 30% of private schools (Choudhury et al., 2022). Children from economically weaker sections will suffer more, while children from higher income groups or metro cities will have an edge because they can use the well-maintained computer labs in schools as well as personal computers at home. A simple PC generally costs at least twenty thousand rupees, which poor children may be unable to afford. In addition, there is a shortage of qualified and trained public school teachers who can transform their

traditional instruction medium to digital (S. Roy, 2022). Over-reliance on e-learning could deepen the digital divide and worsen existing inequalities in society.

Implementing this policy will be challenging as there are aspirational issues to consider. Madhav Chavan, co-founder of *Pratham*, an educational NGO working for underprivileged children, notes a demand-supply gap for education in native languages. He argues that there is a difference between ‘parental demand’ and ‘government thinking’ (Choudhary, 2017), as recent Annual Status of Education Reports (ASERs) have shown a surge in enrollment, especially in English-medium private schools. However, most private schools do not provide quality education and many teachers are not well qualified or trained. Such schools do not follow proper learning-teaching pedagogies, resulting in cramming and rote learning. Despite these drawbacks, private schools offering an English medium are preferred over government schools because English is seen as a means of upward mobility and sometimes as a status symbol. Parents are proud when their children can speak English fluently (Cheruvalath, 2015). In most rural areas, English is generally considered the language of the elites, and demand for it is growing exponentially. NEP advocates for providing primary education in a non-English language, but parents and society may not embrace it wholeheartedly. For example, the Andhra Pradesh government decided to provide schooling in the English medium to cater to the aspirations of

parents and students. If there is a demand for the English language in society, then the problem will not be solved by changing things only on the supply side.

This policy proposes three language formulas by introducing classical languages in schools. However, the experience shows that some north Indian states may not teach south Indian languages, and some south Indian states may be reluctant to teach Hindi. Furthermore, it is often argued that even research scholars may find it difficult to decipher the codes of certain classical languages such as *Pali* and *Prakrit*. Hence, including such languages may not be feasible.

### Health and Nutrition Challenges

The new education policy aims to provide formal education to all children starting from the age of three. To implement this, NEP calls for joint action by educational institutions and ICDS. However, the ICDS program primarily focuses on children’s health and nutritional support. According to a study conducted by Assocham, nearly 40% of Indian children are undernourished, making India home to the largest number of malnourished children in the world (“India has the largest number of malnourished children in the world: Report,” 2017). Therefore, there is an urgent need for additional programs and support focused on reducing health challenges. Given these nutritional challenges, the primary priority of ICDS is to work on children’s health and nutrition. At the forefront of the program, Anganwadi workers are mostly involved in

health and nutrition-related activities. Now they are expected to fulfil the educational needs of the children as well. How far is this possible? Moreover, Anganwadi workers continuously demand better working norms and adequate salaries. As they are not considered regular government employees, they are given fixed amounts as honorariums monthly. Instead of addressing their existing demands, they are given additional responsibilities. With these hardships, work overload, and government negligence, will they be able to provide “foundational education” to the new generation upon which the country’s future lies?

Hunger is one of the enormous challenges that India faces. In the recently released “Global Hunger Index” (2020), India ranked 94 among 107 nations and is included in the ‘serious’ hunger category. This shows that millions of children cannot fulfil their proper nutritional requirements. Many children in rural areas attend schools because of the mid-day meal programme, where they can have nutritious food at least once. This programme has shown improvement in their health as well as an increase in GER. Now, NEP proposes providing breakfast and the mid-day meal to all children. Nevertheless, it is unclear how the budgetary requirements for this expansion will be met. Although NEP proposes to spend 6% of GDP on education, a continuous recommendation since the first policy in 1968, the country has not been able to spend beyond 3.1%. This means that a significant increase in budgetary allocation and proper sectoral fund distribution is required to meet the

educational and nutritional requirements of the next generation.

Along with physical health, Children’s mental health is a critical concern that cannot be ignored. However, NEP is surprisingly silent on this front. There is frequent news about suicide cases due to psychological pressures in academics or failure in various competitive examinations, which highlights the urgent need to raise awareness about mental health, starting from the early years of schooling. One remedy could be to include some activities related to mental health awareness in the regular curriculum. Additionally, some studies advocate including regular mindful practices in the curriculum for better attention and enhanced mental abilities in children (Narayanan & Singh, 2022; Singh & Narayanan, 2021). However, this requires active intervention from the government in recruiting mental health professionals. Currently, there are only three psychiatrists available per million people in India, according to WHO. While some private schools have started recruiting in-house counsellors, public schools hardly have any. To address this issue, there needs to be an increase in budgetary allocation specifically for mental health. According to a 2011 World Health Organization (WHO) report, India spends only 0.06% of its health budget on mental health compared to 4% of developed nations (Saha, 2017).

## DISCUSSION

With the proposal of overhauling structural changes, it is expected that NEP will revolutionize the Indian education system

and shift it from the existing setup. However, many of the changes suggested in this policy were proposed by previous policies, such as the one in 1986 and the Kothari Commission Report in 1966. Furthermore, the RTE tried to meet similar objectives, and many aspects of NEP are already being practiced to a certain extent (Yenugu, 2022). However, even today, decade-old targets are being discussed without any conclusion. For instance, despite a 6% proposal since 1968, the budgetary allocation to education was only 3.1% of GDP in 2021–2022. India needs to focus on various fronts to implement this policy in an appropriate and timely manner. While implementing this policy, there are many priority sectors, but the shortage of teachers is one issue that needs utmost attention (Shakeel, 2021). Moreover, employing teachers on contract makes the problem more complex. According to a UNESCO report, 10% to 15% of schools in several States of India are single-teacher schools (Nanda, 2021). This results in teaching multiple classes together as well as performing non-teaching tasks by a single teacher, which leads to minor or no attention towards children. Proper training of the teachers is as important as filling the vacant positions. An interim solution can be to create a cluster of schools, and internet-based remote teaching can be introduced until the appropriate pupil-teacher ratio is maintained. The pandemic has made audio-video and internet-based teaching methods more prevalent, and they can continue until the vacant positions are filled. Meanwhile, proposed statutory bodies such as NCPFECCE, NCERT and SCERTs

can work together to create and standardize content per the policy. Implementing the proposed changes in the policy may begin with taking these steps.

Although some of the objectives of this policy lack clarity, it can be evaluated more critically once implemented. However, if the overall recommendations of the policy are implemented properly, stepwise and in a timely manner, it can add ample value to the demographics of India. NEP 2020 has laid down a vision for the new India of the 21st century. It acknowledges the importance of experience-based learning and the development of critical thinking for the overall development of human beings. The policy emphasises identifying and training the diverse human potentials and inculcating moral, ethical, and constitutional values to create responsible citizens of the country and the world. It focuses on application-based pedagogies and developing multidisciplinary thoughts. It also brings hope that all kinds of work will be appreciated equally, decreasing the divide between labour and intellectual professions. Nevertheless, a policy document is only an ‘intent’ or ‘guideline’, and the main issue lies not with the written policy document’s recommendations but with the plan’s execution.

Challenges abound, whether it’s budget allocation, creating infrastructure, enhancing the student-teacher ratio, or standardizing content and methods. It requires a great commitment with absolute integrity on the part of those entrusted with executing the policy.

## CONCLUSION

This study highlights possible hindrances that may act as hurdles while implementing the policy. Given the socio-economic demographics of India, it's evident that health and nutritional challenges, along with minimal digital access, could become a significant impediment in realizing the vision of the NEP. This study may provide further avenues for discussion among stakeholders involved in implementing the policy. Without addressing the above-discussed challenges, it would be challenging to make a substantial difference in the current educational situation of the country. Ultimately, it's up to the political leaders and policymakers to realize the intent. It's about implementing and actualizing the proposals foresighted in the policy document. It's about investing more in infrastructure and capacity building of the teachers to ensure affordability and quality. At the same time, to implement the policy, the central and state governments have to work collaboratively as education is a concurrent subject. Therefore, governments should thoroughly discuss and scrutinize the pros and cons before implementing any significant structural changes. Otherwise, it may harm the upcoming generation and society more than it benefits.

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## **Perceptions of the Rights and Welfare of Foreign Workers in Peninsular Malaysia**

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### **ABSTRACT**

The Malaysian government has implemented numerous policies and laws to regulate and monitor the employment of foreign workers in the country. This study examines key issues related to relevant labour laws in Malaysia addressing the welfare and rights of foreign workers, primarily workers' wages and deductions, levy and repatriation costs, insurance and medical benefits, passport retention, discrimination by employers and access to complaint mechanisms. Secondly, this study draws on several survey findings that indicate the existence of forced labour indicators that may amplify the vulnerability of foreign workers to abuse and exploitation. A survey was conducted to obtain perspectives on the rights and welfare of foreign workers in Peninsular Malaysia using a convenience sampling approach to collect relevant data. The study was undertaken among foreign workers with Visitor's Pass (Temporary Employment) (Pas Lawatan Kerja Sementara, or PLKS) and employers of PLKS holders. The survey findings suggest that several aspects of foreign workers' rights and welfare are not effectively protected, with some indicating the presence of forced labour indicators. In addition, two other findings are highlighted to indicate further the areas in which there is a lack of protection for the rights and welfare of foreign workers. The study provides several recommendations and suggests further qualitative studies

to gather in-depth perspectives of foreign workers and employers. The findings can help develop effective policy and legal intervention strategies to improve the rights and welfare of foreign workers in Malaysia.

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## INTRODUCTION

Issues concerning migrant workers impact developing and developed countries. Most migrant workers prefer to work in advanced and developing economies, such as the United States, Canada, Australia, Malaysia, and Saudi Arabia. Their preference is due to a few common factors, such as better job prospects, economic prosperity, political stability, and peace (Hamzah & Daud, 2016). Predictably, with the world's economy rapidly evolving, the demand for foreign workers in developing and developed countries continuously increases. Malaysia is one of East Asia's most populous migrant destinations. Since the early 1980s, Malaysia has relied on foreign workers as part of an economic advancement programme to shift the country's economic structure from agriculture towards manufacturing and services. Since then, Malaysia has seen persistent increases in the size of its low- and semi-skilled foreign workers. The expansion of foreign workers' size has triggered major debates around Malaysia's over-reliance on the low-skilled category of foreign workers in the labour force at the expense of the local workforce and the country's aspiration of becoming a developed nation based on a knowledge-based economy (Harkins, 2016; Kanapathy, 2006).

Employers applying for low-skilled foreign workers are required to apply for Visa With Reference (VDR) and PLKS in order for the workers to work in Peninsular Malaysia in several approved sectors. According to a statistical report from the Malaysian Immigration Department, the

number of legal foreign workers in Malaysia as of 31st January 2020 was 1,983,780 (Malaysian Immigration Department, 2020). The majority came from Indonesia (34.61%), followed by Bangladesh (28.41%) and Nepal (15.09%). The rest were from different countries: Myanmar, India, Pakistan, the Philippines, Thailand, Vietnam, Sri Lanka, Laos, and China. They were employed in six major sectors: manufacturing, construction, plantation, services, agriculture, and mining and quarrying. Approximately 35.04% of them were employed in the manufacturing sector, followed by services (22.35%), construction (21.81%), plantation (13.37%), agriculture (7.42%), and the lowest was mining and quarrying with less than 1%. Under the 11th Malaysia Plan, Malaysia reduced its dependence on foreign workers from 16.1% in 2013 to 12.0% in 2017 (Kok, 2018). Nevertheless, Malaysia remains Southeast Asia's largest importer of foreign workers (Wei et al., 2018). Under the 12th Malaysia Plan, the percentage of low-skilled labourers dropped from 13.8% in 2015 to 11.9% in 2020. It was partly a result of initiatives to expedite automation and reduce reliance on low-skilled foreign workers (Prime Minister's Department, 2021).

The government's efforts to reduce the number of foreign workers in Malaysia are commendable and represent a positive step for the country's development. However, the government should strongly emphasise the social protection of foreign workers. According to a report by the United States Department of State (2020), a significant

number of foreign workers in Malaysia are recruited fraudulently or to be exploited. Amnesty International (2010) also reported that ineffective rules to address agents, violations of labour laws and procedures, and practices that allow employers to hold their employees' passports resulted in evidence of forced labour as a form of human trafficking. Similar views were highlighted by Devadason and Chan (2013), who believed that ineffective policies and laws would expose these foreign workers to abuse and exploitation. From 2015 to 2020, Malaysia was placed on Tier 2 by the United States Government's Trafficking in Persons (TIP) Report on its efforts to prevent human trafficking. Malaysia's failure to handle corruption issues, the lack of investigation and prosecution, and a general lack of improvement in victim protection were why the country remained in Tier 2 throughout that period. Malaysia was further demoted to Tier 3 in 2021 because it continues to fall short of the minimal standards for preventing human trafficking, even after accounting for the impact of the Covid-19 pandemic on its anti-trafficking capabilities (United States Department of State, 2021).

The Malaysian government needs to ensure that these and other challenges are forcefully addressed to counter the repercussions of the poor treatment of the rights and welfare of foreign workers. To that end, the government must consider the international and domestic commitments towards the rights and welfare of workers, including the Declaration on Fundamental Principles and Rights at Work adopted

in 1998 at the 86th International Labour Conference.

This study examines critical issues impacting Malaysia's foreign workers' rights and welfare, including issues that arise from relevant labour laws in Malaysia, particularly on the workers' fundamental rights (wages and deductions, levy and repatriation costs, insurance and medical benefits, leave entitlement, passport retention, treatment by employers and access to complaint mechanisms). Secondly, the study presents the survey findings that spotlight foreign workers' and employers' perspectives and insights on the state of foreign workers' rights and welfare in Peninsular Malaysia based on two surveys conducted with PLKS holders and employers of PLKS holders in Peninsular Malaysia. The findings focus on issues closely connected to indicators of forced labour, specifically fraud or deception, debt bondage, wage deductions and passport withholding, among the most prevalent issues affecting the rights and welfare of foreign workers in Malaysia.

### **Forced Labour and Foreign Workers' Rights and Welfare Issues in Malaysia**

Activists and non-governmental organisations (NGOs) in Malaysia and overseas have raised concerns about the rights and welfare of foreign workers in Malaysia for many years. Oppression, exploitation, fraud, and discrimination are among the few commonly discussed topics frequently inextricably linked to forced labour. Malaysia is a party to the Forced Labour Convention of 1930 and

its Protocol of 2014 (International Labour Organization [ILO], 2022b). Article 2 of the Forced Labour Convention of 1930 (No. 29) defines forced labour as “all work or service which is exacted from any person under the menace of any penalty and for which the said person has not offered himself voluntarily”. Forced labour occurs when employers take advantage of the victims’ vulnerabilities. The ILO identified 11 indicators of forced labour, namely, abuse of vulnerability, fraud, restriction of movement, segregation, physical and sexual violence, intimidation and threats, retention of identification documents, wage withholding, debt bondage, abusive working and living conditions, and excessive working hours (ILO, 2012, 2018b).

Occasionally, a single indicator is sufficient to establish the existence of forced labour. Nevertheless, in most cases, different indicators are required to establish that forced labour has occurred. Several factors can contribute to forced labour practices in Malaysia, including a lack of awareness about forced labour among employers and employees, a lack of knowledge about laws and policies, fear of workers escaping, acceptance of forced labour as an industry norm, deliberate actions by irresponsible employers, being misguided by recruitment agents, isolated employment locations, a lack of enforcement, and a limited number of prosecutions and convictions (Tang, 2019). The lack of Malaysia’s significant efforts to eliminate trafficking in persons in 2020 has been attributed to the lack of investigations into forced labour (United

States Department of State, 2020) and its failure to publicly report investigations or prosecutions involving exploitations or methods that could amount to forced labour, particularly in the rubber manufacturing and palm oil sectors (United States Department of State, 2021).

Most foreign workers incur debt to work in Malaysia. They had to pay exorbitant fees due to significant reliance on labour brokers and intermediaries, which can impact the well-being of foreign workers (Low, 2021). Due to the high debt burden, foreign workers are willing to work overtime, even on holidays and weekends, receive lesser earnings than local workers, and are less concerned about workplace safety and conditions. Employers and agents have exploited this scenario to exploit this group of workers.

According to Tang (2019) and Low (2020), poor monitoring and enforcement by the Department of Labour are some of the reasons why the welfare of foreign workers is not adequately protected. Several employers abuse this advantage by being ignorant and irresponsible towards their foreign workers. Some employers discriminate the foreign workers by classifying them as second or third-class citizens and purposefully allow workers with expired work permits to continue working, although knowing that the action violates Malaysian law (Ahsan Ullah, 2013; Kaos Jr, 2021; Low, 2021). The protection and well-being of foreign workers are additionally undermined by corruption and monopolisation of services in the recruitment processes, all of which

contribute towards the commodification of foreign workers in Malaysia (Lee & Pereira, 2023; Low, 2021). Furthermore, employers' refusal to repatriate workers with expired work permits has increased the influx of foreign workers in Malaysia.

Additionally, one of the significant issues concerning the welfare of foreign workers is the disparity in healthcare and workplace compensation schemes between foreign workers and local workers. According to Low (2021), foreign and local workers have been covered by separate schemes since 1993. Under the Employees' Social Security Act 1969 (Act 4), local workers are insured under the Social Security Organisation (SOCSO), whereas foreign workers are covered by the Workmen's Compensation Act 1952 insurance scheme. Significant discrepancies can be observed as the compensation structure under the Workmen's Compensation Act offers less coverage for permanent disability and death cases. For instance, the maximum payment for permanent disability is RM23,000 for foreign workers. Nevertheless, local workers can get periodic payments of up to RM425,000, according to a simulation study done by ILO from 2010 to 2014 (ILO, 2017, 2018a). The scheme is criticised as unjust to foreign workers because they are more susceptible to a hazardous work environment that might result in accidents and injuries. According to Del Carpio et al. (2013) and Loganathan et al. (2020), this differentiated treatment has resulted in more medical costs not being covered by employers due to many foreign workers being uninsured or

underinsured. Nevertheless, this situation has been improved since the government abolished the Workmen's Compensation Act 1952 in 2018 (Bernama, 2018). By 1st January 2019, this scheme was effectively replaced by the Employment Injury Scheme (*Skim Bencana Kerja* or SBK) under SOCSO.

### **Malaysian Labour Laws and Policies on the Welfare of Foreign Workers**

The employment of foreign workers in specific sectors in Malaysia started during the British colonial era. Since then, shifts in labour market requirements, the promotion of technology-based labour, and the inflow of foreign workers, including irregular and undocumented workers, have led to short-term and ever-changing migration policies and laws (Ajis et al., 2014, 2018; Kassim, 2012). Effective implementation and enforcement of labour laws are still needed, particularly for improving foreign workers' social protection and rights. Malaysian law contains various provisions that can be used to safeguard the rights and welfare of foreign workers. The regularly cited relevant Act is the Employment Act 1955 (Act 265), which regulates employment terms and conditions for all foreign workers except those employed as domestic workers.

This Act makes no distinction between local and foreign workers, and all the provisions of the Act apply equally to both groups. Section 19 of Act 265 guarantees fundamental rights to foreign workers, such as the right to receive wages, whereas Section 24 addresses lawful deductions

from workers' wages. Employers must make payments within seven days of the next month using the payment method agreed upon by the employee. Section 60A of Act 265 also states that a foreign worker cannot work more than eight hours per day or more than 48 hours per week. Furthermore, companies are required by Sections 60E and 60F to provide annual leave and medical leave to foreign workers. The legislation is crucial for the workers' fundamental rights to be enforced, deterring and punishing exploitations and abuses by employers.

Malaysia also adopted a "no recruitment fee" policy based on its Fair Recruitment Initiative introduced in 2014 (Vinothaa, 2022). Employers have been made fully accountable for the annual levy and are no longer allowed to deduct their employees' salaries to pay the levy through the introduction of the Employer Mandatory Commitment, enforced in January 2018 (Devadason, 2020). The annual levy introduced by the government was initially payable to each foreign worker in 1992. However, it was transferred to employers in 2009 before being shifted back to workers in 2013, who paid the levy through salary deductions until 2018. In 2018, the government reversed its policy by again imposing the obligation on employers to pay the levy (Devadason, 2020).

Regarding the minimum wage, the Minister of Human Resources has the authority to issue a Minimum Wage Order per Section 23 of the National Wage Consultative Council Act (2011). The Minimum Wage Order (Amendment) 2020

is the order that establishes the minimum wage rate for employees at RM1,200 per month, replacing the Minimum Wage Order (Amendment) 2019, which sets the minimum wage rate at RM1,100 per month. Despite this, the Malaysian government implemented yet another change in 2022, raising the minimum wage to RM1,500 per month through the Minimum Wage (Amendment) Order 2022, effective 1st May 2022, with exemptions for employers with less than 5 employees until 31st December 2022 (Ministry of Human Resource Malaysia, 2022b). Beginning 1st January 2023, the new minimum rate has been applied to all employers (Bernama, 2022; Ministry of Human Resource Malaysia, 2022b).

Employer contributions protect foreign workers, particularly during an accident on the way to or from work, while working, or during employer-provided breaks. Additionally, SOCSO covers illnesses caused by employment, medical benefits, injuries resulting in temporary or permanent disability, continuous attendance allowance, dependents' benefits and rehabilitation, and certain incidents involving death, including repatriation and burial. Employers who fail to register qualified employees under the Employees Social Security Act 1969 may be fined up to RM10,000 or imprisoned for up to two years, or both, if convicted under Section 5 of Act 4 and Regulation 12 (1) of the Employees' Social Security (General) Regulations 1971. Moreover, foreign workers are required to sign up for the Foreign Workers Hospitalisation

and Surgical Insurance Scheme (*Skim Perlindungan Insurans Kesihatan Pekerja Asing* or SPIKPA), which provides total health insurance coverage of RM10,000 per year with an insurance fee payment of RM120 per foreign worker (Loganathan et al., 2020; Ministry of Health Malaysia, 2011). The government implemented this scheme to help foreign hospitalised workers due to an accident or illness. Employers cannot renew the work permits of their foreign workers if there is no SPIKPA.

## METHODOLOGY

### Sample and Data Collection

A quantitative study using the survey method was designed to collect information and perceptions on the welfare of foreign workers in Peninsular Malaysia. This study was conducted from 6th October 2020 until 21st November 2020 as part of broader research to understand the public and human security implications of the presence of foreign workers in Peninsular Malaysia. Two key groups were surveyed: foreign workers and employers. The respondents among foreign workers had to meet the following inclusion criteria: (1) the foreign workers must be registered PLKS holders, (2) the foreign workers must work in either one of the six approved sectors of employment in Peninsular Malaysia and (3) the foreign workers must originate from one of the approved source countries. The inclusion criteria for respondents among employers were (1) the employers must be registered with the Companies Commission of Malaysia (*Suruhanjaya Syarikat Malaysia*

or SSM), (2) the employers must employ foreign workers holding PLKS in Peninsular Malaysia, and (3) their registered businesses must belong to either one of the six approved sectors for PLKS holders.

The suitable sample size for each group was determined using the methods described by Krejcie and Morgan (1970), Sekaran and Bougie (2016), and Cohen et al. (2017). According to the statistics issued by the Malaysian Immigration Department, the population of foreign workers actively working in the six main sectors is estimated to be 1,873,429 workers up to 31st January 2020 (Malaysian Immigration Department, 2020). For employers, there are believed to be 25,000 companies in Peninsular Malaysia that have employed PLKS foreign workers under their companies, based on the Institute of Labour Market Information and Analysis (ILMIA) report (2020). These numbers were used to estimate a suitable sample size for the foreign worker and employer respondents. Based on these numbers, the minimum sample size for foreign workers was 384, while the minimum sample size for employers was set at 379 people, giving a 95% confidence level and a 5% sampling error. Face-to-face sessions were used to collect data from foreign workers, while an online survey form was used to collect data from employers. Both techniques employed a non-probability sampling approach, which is convenience sampling. The convenience sampling technique was chosen as it was the most practical and feasible method to collect data from the target population within time and resource constraints.

The survey questionnaire for both groups were divided into two sections. The first section examined the respondent's demographic characteristics, such as gender, nationality, sector, and ethnic background. The second section looked at welfare issues impacting foreign workers from the respondent's standpoint. The respondents were asked to indicate their agreement or disagreement with each statement on a three-point scale: Yes, No, and Not Sure.

Several procedures were taken prior to conducting this survey. In the first step, the sampling method was identified through a survey instrument construction workshop and then validated by three experts in the field. After getting approval from these three experts, the questionnaire was submitted to the Research Ethics Committee of Universiti Sains Islam Malaysia (USIM) for ethical approval for this study. This questionnaire also underwent a pilot study before the actual study was conducted. The

actual study was conducted after making corrections based on the results of the pilot study. During the final stage, the results of the actual study were reviewed and validated by the questionnaire experts.

## RESULTS AND DISCUSSION

### Demographic Profile of Respondents

A total of 668 (100%) foreign workers holding PLKS answered the questionnaires. As shown in Table 1, male respondents were 386 (57.8%), while female respondents were 282 (42.2%), representing different nationalities and sectors. A total of 428 (100%) respondents comprising employers, who hired foreign workers, completed the questionnaires. According to the demographic profile in Table 2, 274 male respondents (64%) and 154 female respondents (36%), representing a diverse range of ethnicities and sectors, participated in the study.

Table 1

*Demographic profile of foreign workers*

Variable		Frequency	Percentage (%)
Gender	Male	386	57.8
	Female	282	42.2
Nationality	Indonesia	214	32.0
	Bangladesh	87	13.0
	Nepal	94	14.1
	Myanmar	28	4.2
	India	9	1.3
	Pakistan	24	3.6
	Philippines	10	1.5

Table 1 (*Continue*)

Variable		Frequency	Percentage (%)
Nationality	Thailand	177	26.5
	Vietnam	10	1.5
	Sri Lanka	1	0.1
	Laos	1	0.1
	China	11	1.6
	Others	2	0.3
Sector	Manufacturing	109	16.3
	Plantation	66	9.9
	Agriculture	19	2.8
	Construction	101	15.1
	Mining and quarrying	25	3.7
	Services	337	50.4
	Others	11	1.6

Table 2

*Demographic profile of employers*

Variable		Frequency	Percentage (%)
Gender	Male	274	64.0
	Female	154	36.0
Ethnicity	Malay	175	40.9
	Chinese	186	43.5
	Indian	43	10.0
	Others	24	5.6
Sector	Manufacturing	153	35.7
	Plantation	35	8.2
	Agriculture	27	6.3
	Construction	54	12.6
	Mining and quarrying	37	8.6
	Services	83	19.4
	Others	39	9.1

### Perceptions on the Welfare of Foreign Workers in Peninsular Malaysia

Tables 3 and 4 present the perceptions of foreign workers and employers surveyed to achieve this goal. The findings indicated that several issues affecting the rights and welfare of foreign workers require the attention of policymakers and regulators. These issues were identified by examining the association between perceptions and potential indicators of forced labour developed by the ILO and

other issues of concern that may increase foreign workers' vulnerabilities to abuse and exploitation. We will focus firstly on several key findings that may subject the workers to the risk of forced labour to varying degrees, providing a detailed discussion and analysis of the results obtained. It will be followed by other findings relating to social security protection and access to justice, highlighting relevant factors that may heighten workers' insecurities and vulnerabilities.

Table 3

*Distribution of respondents among foreign workers by frequency and percentage regarding the state of foreign workers' rights and welfare*

No.	Aspect/Item	Frequency (%)		
		Yes	No	Not Sure
General Welfare				
1	The cost of recruitment that I must pay in my country to work in Malaysia is fair.	565 (84.6%)	28 (4.2%)	7 (11.2%)
2	I understand my rights and responsibilities as stipulated in my working contract signed by me.	627 (93.9%)	29 (4.3%)	12 (1.8%)
3	My current work is what has been promised exactly by the recruitment agency in my country.	599 (89.7%)	48 (7.2%)	21 (3.1%)
4	I/my family borrowed money to pay for the cost of working here.	385 (57.6%)	281 (42.1%)	2 (0.3%)
5	I was deceived/abused during the recruitment process.	66 (9.9%)	598 (89.5%)	4 (0.6%)
6	My travel and/or work documents are held (or used to be held) by my employer.	313 (46.9%)	342 (51.2%)	13 (1.9%)
7	The treatment given by my employer is satisfactory.	660 (98.8%)	4 (0.6%)	4 (0.6%)
Wage				
8	My employer informs me of my employment terms and conditions as a foreign worker.	647 (96.9%)	13 (1.9%)	8 (1.2%)

Table 3 (Continue)

No.	Aspect/Item	Frequency (%)		
		Yes	No	Not Sure
9	My employer remunerates me according to the Minimum Wages Order (minimum of RM1,200).	65 (98.2%)	7 (1%)	5 (0.7%)
10	I receive my salary according to the period specified in the employment contract.	650 (97.3%)	8 (1.2%)	10 (1.5%)
11	My employer pays my salary after deducting the cost of recruiting me as a foreign worker.	106 (15.9%)	517 (77.4%)	45 (6.7%)
12	My salary does not include medical benefits and/or overtime allowance.	270 (40.4%)	361 (54%)	37 (5.5%)
13	The salary given by my employer is enough for me to return to my home country for a holiday.	600 (89.8%)	58 (8.7%)	10 (1.5%)
14	I can obtain additional allowances if I possess skills related to technology/ machines.	462 (69.2%)	118 (17.7%)	88 (13.2%)
Insurance and Medical				
15	I am protected by the foreign worker insurance scheme as prescribed by the government of Malaysia.	547 (81.9%)	83 (12.4%)	38 (5.7%)
16	The medical and treatment costs that I must pay in Malaysia are reasonable.	527 (78.9%)	55 (8.2%)	86 (12.9%)
Levy and Repatriation Costs				
17	I am aware that the levy should be borne by the employer.	531 (79.5%)	65 (9.7%)	72 (10.8%)
18	I bear the cost of returning to my home country after my contract has ended or my services have been terminated.	418 (62.6%)	230 (34.4%)	20 (3%)
19	I am aware of the official channels to report abuse or violation of my rights.	545 (81.6%)	75 (11.2%)	48 (7.2%)

Table 4

*Distribution of respondents among employers by frequency and percentage regarding the state of foreign workers' rights and welfare*

No.	Aspect/Item	Frequency (%)		
		Yes	No	Not sure
1	The employer keeps the travel and/or work documents of foreign workers.	288 (67.3%)	140 (32.7%)	0 (0%)
2	Employers must provide impartial treatment without discriminating between foreign and local workers.	405 (94.6%)	23 (5.4%)	0 (0%)
3	My company/enterprise ensures that the employees understand their rights as stated in the employment contracts that they signed.	419 (97.9%)	9 (2.1%)	0 (0%)
4	My company/enterprise implements the Minimum Wages Order 2020.	415 (97.0%)	13 (3.0%)	0 (0%)
5	My company/enterprise pays the salary of workers according to the period specified in the employment contract.	423 (98.8%)	4 (0.9)	1 (2.0%)
6	The salary accorded to foreign workers in my company/enterprise does not include medical benefits.	306 (71.5%)	122 (28.5%)	0 (0%)
7	The salary accorded to foreign workers in my company/enterprise does not include overtime allowances.	242 (56.5%)	186 (43.5%)	0 (0%)
8	My company/enterprise abides by the regulations related to the provisions of leave to foreign workers.	407 (95.1%)	20 (4.7%)	1 (2.0%)
9	My company/enterprise contributes to the Employment Injury Scheme for Foreign Workers (SBK) for every employed foreign worker.	367 (85.7%)	61 (14.3%)	0 (0%)
10	My company/enterprise bears the costs of returning foreign worker(s) whose employment contract has ended or whose services have been terminated.	353 (82.5%)	75 (17.5%)	0 (0%)
11	My company/enterprise bears the medical costs of employed foreign workers outside of those covered by SBK.	342 (79.9%)	83 (19.4%)	3 (0.7%)
12	My company/enterprise provides a special unit/channel for foreign workers to communicate their grievances related to employee welfare.	334 (78.0%)	93 (21.7%)	1 (2.0%)

**Indebtedness Could Give Rise to Debt Bondage.** More than half of the workers surveyed (57.6%) confessed to being in debt to be employed in Malaysia. This finding is concerning as indebtedness can induce foreign workers to work overtime to generate more money than the income offered to pay off their debts, which can be exploited by employers who want to profit from the workers' extra labour. Indebtedness among workers is a situation that often begins in their origin countries hence sustained and effective engagement with the governments of the source countries to address this issue is crucial (ILO, 2018b). More room for exploitation and abuse is known through multiple chains of intermediaries in the recruitment process charging various recruitment and other related fees to foreign workers in Malaysia (Kanapathy, 2006). Even after the amendment to abolish outsourcing companies through the Private Employment Agency Act (Amendment) 2017, migrant workers continue to fall victim to debt bondage and be at "the mercy of their employers" (Human Rights Commission of Malaysia (SUHAKAM), 2018, pp. 128–129). ILO (2022a) further found that complex or centralised recruitment processes in capital cities or online incentivise reliance on intermediaries, which may comprise informal subagents outside the regulatory framework. This complex and centralised system relies on informal subagents not tied to recruiters' protection obligations and ethical recruitment practices to anchor the formal processes and employment requirements (Mohamed Razali, 2022).

Additionally, the findings on wage deductions, knowledge of who bears the costs of levy and returning foreign workers to their home countries suggest how foreign workers may be vulnerable to indebtedness leading to debt bondage. Wage deductions experienced among the 15.9% of workers surveyed may compound their indebtedness when such deductions occur without the workers' consent. The literature has shown how recruiting foreign workers has evolved into a profit-making business, as viewed from the imposition of exorbitant placement and recruitment fees deducted from workers' salaries (Devadason, 2020; Low, 2020).

Effective 1st February 2017, employers have been required to sign a pledge known as the Employers' Undertaking, containing 11 mandatory commitments, including to pay the workers' levy under The Fees Act 1951 (Act 209), and to provide salaries, allowances, leave and other benefits recognised by the Employment Act 1955 (Ministry of Human Resource Malaysia, 2022a). A transparent and responsible recruitment system will require that such commitments be made clear to employers and workers and legally enforceable.

However, from the survey results, 20.5% of the workers were unaware that the employer was responsible for the cost of the levy. In comparison, 62.6% believed that they were responsible for the cost of returning to the countries of origin once the contract had expired. The strict liability principle imposed through the mandatory commitments on employers might not be effective if the workers were

not aware of their rights not to be imposed illegal deductions in terms of the types, mechanisms and amounts allowed under Act 265. The illegal deductions from wages for the payment of the levy and other arising costs, such as the costs of quarantine of workers and of returning to their home countries, are not spelt out comprehensively and clearly in Act 265 and other related Acts or regulations such as Act 209. This can create gaps in enforcing the liability of employers. Furthermore, the absence of legislation to enforce the ‘zero recruitment’ cost policy creates a loophole that could risk Malaysia being placed on Tier 3 in the coming TIP report (Vinothaa, 2022).

**Passport Retention.** The high degree of responses admitting the practice of withholding workers’ passports both on the part of workers (46.9%) and employers (67.3%) flags a violation of Section 12(1) (f) of the Passport Act of 1966 (Act 150), pointing to the common indicator of forced labour set by the ILO and past findings by non-profit organisations such as Amnesty International (2010), Verité (2014) and Fair Labor Association (2018). According to Earthworm Foundation (2019), passport retention by employers has become a normalised practice, especially among small-medium players in the context of the palm oil sector. Many employers are unaware of or do not think the said practice is legally prohibited. Where passports are held for safekeeping by palm oil workers, access to such documents often is subject to consent and/or red tape on the part of the

employers and/or agents (Wahab & Razak, 2022).

The current sanctions for illegal passport retention or confiscation contravening Section 12(1)(f) of Act 150, carrying a fine of not exceeding RM 10,000 or imprisonment not exceeding 5 years or both, appears ineffective in containing this illegal practice. Poor enforcement contributes to the long-standing non-compliance by employers, which is evidenced by the country’s minimal records of prosecutions of offences related to illegal passport confiscation. In 2016, non was convicted compared to 17 convictions the following year despite this widespread practice (United States Department of State, 2016, 2017).

**Deception in the Recruitment Process.** Close to 10% of the surveyed foreign workers indicated being victims of fraud when the jobs offered differed from those promised. This is not an outlier as low levels of transparency into working conditions, lack of legal protections and unethical behaviour on the part of intermediaries and employers are part of the complex supply chains that intensify workers’ vulnerabilities with or without deliberate intent to exploit workers (Mohamed Razali, 2022; Verité, 2014). There have been recorded cases of individuals paying high recruitment fees who were left stranded in Kuala Lumpur without employment, forced to work in harsh conditions, or repatriated to their home countries. (Palma, 2015; Wickramasekara, 2015). Workers’ limited language ability and lack of means and capacity to comprehend

and enforce their contracts make them easy targets for fraud, abuse and exploitation (Wei & Yazdanifard, 2015). It may also explain why 62.6% of workers believed they were responsible for returning to their countries of origin after the contract expired.

#### **Insurance and Medical Contributions.**

SOCESO has implemented SBK under Act 4 to replace the SPPA. From January 2019, the government has agreed to place matters related to foreign employees' social security protection under SOCESO, subject to Act 4 (SOCESO, 2020). Employers who legally hire foreign workers must register the workers with SOCESO and contribute to the Occupational Disaster Scheme under the same Act. Among the employers surveyed, 14.3% did not contribute or were unsure if they provided their contributions to SBK. In comparison, a higher percentage of 20.1% of the employers did not pay for or were unsure if they bore their workers' medical costs beyond the scheme's coverage.

The initial findings suggest that foreign workers may still face great financial constraints in receiving outpatient treatments and those uncovered under SBK despite the inclusive move that extended SBK to foreign workers. It is especially so with the increased medical costs to foreigners beginning in January 2016 following the phasing out of subsidised healthcare for non-citizens under the Fees (Medical) (Cost of Services) Order 2014. Furthermore, SPIKPA, which offers financial protection for foreign workers concerning healthcare expenditure for inpatient care or surgery at

public hospitals, is said to be inadequate and excludes outpatient treatment (Loganathan et al., 2020).

#### **Access to Complaint Mechanisms and Justice.**

From the survey, 18.4% of the respondents among foreign workers either did not know or were unsure where to lodge a formal complaint if the employer breached the employee's rights. Information from the desk review revealed that foreign workers could file complaints with the Department of Labour, NGOs, their respective nations' embassies, and local police stations (Harkins & Åhlberg, 2017; Taylor-Nicholson et al., 2019). Although labour claims, labour inspections and industrial claims such as for unpaid wages and cases of unfair dismissal can be filed by foreign workers in the civil courts, several institutional, legal and social reasons prevent them from coming forward to enforce their rights. These include fear of losing jobs and legal status, threats of arrest due to the withholding of passports by employers, denial of liability by employers when their workers are registered with outsourcing agents, and lack of financial and social support (Taylor-Nicholson et al., 2019).

The Malaysian government has also launched a judicial platform for complaints through a new Working for Workers (WFW) application to help workers, including foreign workers, lodge labour-related complaints against their employers (Bernama, 2021). However, the survey with the foreign workers did not gauge further the specific complaint channels they were aware

of, preventing more accurate responses on their knowledge about these specific avenues and whether they are accessible by foreign workers.

### **Implications of Findings**

The outcomes of this study are significant in at least two contexts. Forced labour allegations are highly connected to recruiting and employing foreign workers in Malaysia. A background study conducted between 2018-19 pointed to scant data and evidence on forced labour in Malaysia, acknowledging further that those accessible to the public are mostly derived from investigative journalism based on specific sectors (Lee & Pereira, 2023). Thus, this study clearly brought to the fore the integral role of empirical evidence from both key actors, foreign workers and employers, in identifying and measuring the occurrence of forced labour and related areas in which foreign workers are vulnerable to abuse and exploitation. Next, the findings pave the way for targeted and responsive policy, legal and operational intervention opportunities by various local and international stakeholders to address forced labour and other issues affecting the rights and welfare of foreign workers in Malaysia and empowerment of foreign workers by civil society actors. These intervention efforts enabled by the study findings speak strongly to Malaysia's existing and renewed commitment to tackling forced labour in all its forms, which is reflected in its ratification of the Protocol of 2014 to the Forced Labour Convention, 1930 and enactment of the country's

National Action Plan on Trafficking in Persons for the period 2021-2025. These normative obligations emphasise awareness, enforcement, labour migration, and access to remedies and support for the victims (ILO, 2022b) in order to eliminate forced labour by 2030.

### **CONCLUSION**

The perceptions of foreign workers based on the survey findings reveal essential aspects of workers' rights and welfare that are not adequately protected. Crucial concerns must be addressed, although most foreign workers surveyed are satisfied with their employers' treatment. These concerns include gaps and practices leading to debt bondage, possible fraud in the recruitment system, employer-held passports, employers' failure to cover employees under SBK and lack of access to established grievance or complaint mechanisms for the workers. The findings suggest the continual presence of certain indicators of forced labour by the ILO regarding some of these findings. Finally, several recommendations are proposed to improve the protection and welfare of foreign workers, as part of the study objectives and outcomes.

### **Recommendation**

Based on the government's commitment to decent work and the urgency to address forced labour, the government should strictly act on, monitor and enforce the applicable standards under the ILO Forced Labour Convention 1930, ratified by Malaysia in 1957 and its Protocol of

2014 ratified by Malaysia in 2022. The accompanying Recommendation (No. 203) prescribes zero recruitment fees, transparent and written contracts in the language workers can understand, and adequate and accessible complaint mechanisms. Despite the government's increasingly responsive national policies and legislative initiatives at curbing problems affecting the rights and welfare of its foreign workers, gaps in policy, legal and operational measures that still place workers at risk of exploitation and without adequate protections must be mapped out and addressed. These, among others, call for the following:

(1) Ensuring the compliance of standard contracts with international norms by prescribing specific provisions on working hours, annual leave, overtime payment, and allowable deductions. A copy of the contract in the language understood by and explained to the workers must be provided so that they can seek support and redress when their rights are breached (ILO, 2022b).

(2) Simplifying and decentralising recruitment processes based on a recruitment and licensing framework with proper and robust oversight and accountability of all recruiters and ensuring the involvement of auditors and labour inspectors who are well-equipped with knowledge and skills to detect and report on elements of forced labour across the labour supply chains.

(3) Increasing and broadening the coverage for financial risk protection to migrant workers under SPIKPA including

for outpatient treatment, which is not covered by SBK so as to meet the increased medical costs affecting foreign workers. The provision of SPIKPA should also be regulated and enforced to ensure compliance on the part of employers (Loganathan et al., 2020).

(4) Alongside stricter and frequent enforcement actions and awareness-raising campaigns among employers and their agents to address the practice of passport retention, relevant sanctions should be increased to deter such action that could amount to forced labour. The heavier penalty of \$10,000 or imprisonment of 10 years or both in Singapore for similar offences (Section 47(5) of the Passports Act of Singapore) is a good example that can be considered. These efforts must be complemented by public reporting of the initiatives to achieve greater transparency and accountability.

(5) Reviewing and amending the necessary legislation to enforce the 'zero cost' recruitment cost' policy comprehensively with effective sanction mechanisms.

(6) Publishing and disseminating information about access to complaint mechanisms and justice among foreign workers effectively through their embassies, representatives and employers as well as legislating retaliation by employers against workers who lodge complaints through the judicial and non-judicial platforms (Taylor-Nicholson et al., 2019).

## Limitations and Future Research

The sample size of this study may not be sufficient to draw definitive conclusions about the issues on the rights and welfare of foreign workers in Peninsular Malaysia. Due to time and resource constraints caused by the Movement Control Order (MCO) and COVID-19, the sampling had to be limited to 668 responses from foreign workers and 428 responses from employers. Therefore, the findings do not fully represent the state of foreign workers' surveyed rights and welfare in Peninsular Malaysia. The word limit may have also constrained the depth of analysis that could be conducted.

Mindful of the limits of the quantitative survey method conducted and the limited scope to delve deeply into each recommendation, this paper suggests a further study focusing on the proposed recommendations covering compliance with international standards, oversight mechanisms, stricter sanctions and awareness-raising. Other qualitative studies are additionally recommended to uncover in-depth narratives and empirical evidence that underlie the perspectives of foreign workers and employers on these issues for effective responses and future reforms by policymakers.

Future studies could aim to collect a larger sample size to ensure a more diverse representation to better understand the rights and welfare of foreign workers based on the perspectives of foreign workers and employers in Malaysia. The study can also be extended to explore alternative data sources, such as government reports

or industry publications, to provide a more comprehensive understanding of the situation of foreign workers in Malaysia. To the end, researchers could work to advocate for greater transparency and access to data from the authorities.

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*Review Article*

## **The Art of Quranic Memorization: A Meta-Analysis**

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### **ABSTRACT**

This study highlights the research trends related to Quranic memorization by retrieving and analyzing articles from online scholarly open-source databases such as Google Scholar and Research Gate. The researchers selected 20 articles from online open-source publications published from 2016 to 2021. Findings from this study may help students, teachers, and *tahfiz* (memorization) institutions develop effective strategies to ensure successful Quranic memorization. Additionally, the study sheds light on the Quranic memorization framework and addresses the research gap that has yet to be carried out by researchers. The study uses meta-analysis to evaluate each article's content and determine its subject matter. This analysis is then translated into numerical data, including figures for frequency and percentage. Research findings indicate a high research interest relating

to methods of Quranic memorization. However, less research has been conducted on sustaining Quranic memorization. Hence, future research should focus on sustaining Quranic memorization regarding methods, challenges, and motivation. Simply memorizing the Quran is not enough; it is essential to maintain memorization.

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## INTRODUCTION

Among the wisdom of the gradual process of Quranic revelation to the Prophet Muhammad (Peace Be Upon Him) is to provide the opportunity to memorize, comprehend and execute the Quranic commands. This situation allows the Prophet's companions to learn Quran in stages, developing a strong foundation of Islamic doctrines for the *Ummah's* (community) success in the material world and hereafter. The Quran encompasses the Divine guidelines to the Prophet (PBUH) in dealing with daily lives and the *Ummah*. In the life of a Muslim, memorizing the Quran can be seen as a way to carry on the tradition of Prophet Muhammad (PBUH) as well as one of the ways to preserve the Quran's authenticity as a guide for humankind (Altine, 2019). Thus, memorizing and comprehending the Quran is an important *Sunnah* (Prophet Muhammad's way of life). Memorization enhances cognitive skills and aptitude, which increases the power of knowledge retention and resistance in life (Gulamhusein & Momanyi, 2020). Hence, understanding and comprehending the Quran leads to the true practice of God's revelation.

Memorization, as seen from a neuroscience perspective, involves the processes of learning, memory storage, memory formation, and recall production; these processes are evidence of extraordinary cognitive abilities centered in the human brain. While short-term memory has a limited capacity and operates in a semiconscious state, long-term memory has

an unlimited capacity for permanently storing information, which will be activated when stimulated (Mustaffa, 2010). As a result, the processes of memorization and types of memory described above can be achieved with structured methods and continuous practice, specifically in memorizing the Quran. The repetition method, for example, should be consistently practiced to boost long-term memory. It is the most common method and practice employed by *huffaz* (memorizer) in memorizing the Quran.

Quranic memorization has been extensively researched. As a result, it is necessary to determine the research trends in Quranic memorization research. A systematic review of previous research trends as well as strategizing a conclusion based on those studies, is needed. Thus, this article identifies (1) the research trends in Quranic memorization from 2016 to 2021, (2) the research areas, (3) the most frequently employed methodologies, (4) the research instruments implemented, and (5) the data analysis techniques. Finally, the researchers reviewed the major findings of the selected articles. The main themes of the analysis were identified and discussed as methods of Quranic memorization, motivational factors in Quranic memorization, and the effect of Quranic memorization tools. Findings from this study contribute knowledge for Quranic memorization students, teachers, and *tahfiz* institutions to employ appropriate strategies for successful Quranic memorization. The study also contributes to highlighting the Quranic memorization research trends and narrowing the research gap that has yet to be filled by researchers.

1. What have been the primary areas studied concerning Quranic memorization?
2. Which research methodology is the most used in Quranic memorization?
3. What is the research instrument for data collection that is most used in research?
4. What is the trend in Quranic memorization methods?
5. What are the motivational factors in Quranic memorization?
6. What is the impact of Quranic memorization tools on Quranic memorization?

## METHODOLOGY

This study identifies research directions related to Quranic memorization by analyzing articles published in various online scholarly open-source databases from 2016 to 2021, which were accessible via Google Scholar and Research Gate. Hence, a meta-analysis is deemed the best method for this study. Meta-analysis and content analysis have been employed interchangeably from the literature to determine research trends. Content analysis is a research procedure that employs both quantitative and qualitative methodologies to systematically interpret textual materials (Hsieh & Shannon, 2005). According to Bauer and Gaskell (2000), one of the benefits of conducting content analysis is that it allows researchers to link data related to each other and generate themes that are

easy to read; it also allows researchers to use it as a reference for their potential studies. In contrast, a meta-analysis is an analysis that can be classified into two categories, integrative and interpretive. For this study, the integrative method summarizes data from quantitative findings and provides a qualitative understanding of the data.

Next, by summarizing data from numerous sources, a meta-analysis minimizes the already presented data and aids in planning research and formulating guidelines. Another benefit is that it ensures the generalizability and consistency of relationships while explaining and quantifying data inconsistencies. Hence, meta-analysis is the statistical approach of extracting and combining data to reach a comprehensive conclusion (Gopalakrishnan & Ganeshkumar, 2013). One of the most common types of meta-analysis researchers use is examining the changing trends of theoretical content and methodological approaches by analyzing the content of journal articles related to the discipline (Pamela, 1979, as cited in Hassan & Ibrahim, 2018).

To state an example in the field of Science Education, Hassan and Ibrahim (2018) reviewed 20 articles published between 2010 and 2016 to examine research trends linked to the teaching of Science in secondary schools. The publications were evaluated based on the authors' methodology, subject areas, data collection techniques, and data analysis techniques. Frequencies and percentages were used to examine the study's findings.

Further, a meta-analysis is employed to analyze these 20 articles from open-source online publications which specify critical reviews of previous research in the range of 2016 and 2021 made available in Google Scholar and Research Gate by considering the following steps: (1) the publication year, (2) authors, (3) research title, (4) research objectives, (5) research methods, (6) data collection instruments, (7) data analysis techniques, and (8) a summary of major findings from the research. Then, the study's findings were analyzed and converted into numbers, frequencies, and percentages.

The journal articles were chosen based on the keywords found in the research questions. The journals were carefully selected and filtered to ensure they were peer-reviewed and not on the predatory list. The journals used were as follows: American Journal of Educational Research, Hindawi Advances in Human-Computer Interaction, IIUM Journal of Educational Studies, Intellectual Discourse, International Journal of Academic Research in Business and Social Sciences, International Journal of Civilizational Studies and Human Sciences, International Journal of Islamic Educational Psychology, International Journal of Quranic Research, International Journal of Recent

Technology and Engineering, Journal of Contemporary Islamic Studies, Journal of Islamic Education, Journal of Islamic Educational Research, Journal of Qur'ān and Sunnah Studies, *Jurnal Pendidikan Guru MI*, *Jurnal Perspektif*, *Jurnal Studi Al-Quran*, *Jurnal Ushuluddin*, Malaysian Journal of Learning and Instruction, and Mediterranean Journal of Social Sciences.

## RESULTS AND DISCUSSION

### Methodologies of Research Used in the Articles

The science of studying how research is scientifically done is known as the research methodology. It is a method systematically employed in resolving research problems by following a logical sequence of steps (Patel & Patel, 2019). A research approach can be classified as quantitative, qualitative, or mixed. In this study, it was discovered that 50 percent, wherein 10 out of 20 articles, had used qualitative research methods, followed by 35 percent, that was, seven articles out of 20 used quantitative methods, while 15 percent included three articles with a mixed method. Table 1 presents the percentage and frequency of the research methods used in the articles reviewed.

Table 1

*Percentage and frequency of research methods from articles reviewed*

Research Category	2016	2017	2018	2019	2020	2021	Frequency	Percentage
Qualitative	2	-	1	3	1	3	10	50%
Quantitative	-	2	-	1	3	1	7	35%
Mixed Method	-	1	-	1	-	1	3	15%

**Research Instruments for Data Collection Used in the Articles Reviewed**

Researchers used questionnaires, interviews, document analysis, observation, test techniques, and other data collection tools to collect data. There were multiple instruments used to collect data in certain articles. In this study, each instrument was counted separately and independently. The results of this study indicated that questionnaires are the most used method for data collection,

accounting for 33.3% (10), followed by interviews at 26.6% (4), document analysis and observation at 16.6% (5), respectively, and testing technique at 6.6% (2). Thus, the most used instrument for data collection is a questionnaire, which specifically aims at gathering quantitative data, while the least commonly used instrument is the testing technique. Table 2 presents the percentage and frequency of research instruments used for data collection in the articles reviewed.

Table 2  
*Research instrument used for data collection in the articles reviewed*

Research Instruments	2016	2017	2018	2019	2020	2021	Frequency	Percentage
Questionnaire	-	3	-	3	3	1	10	33.3%
Interview	1	-	-	3	1	3	8	26.6%
Document analysis	2	-	1	-	1	1	5	16.6%
Observation	1	-	-	2	1	1	5	16.6%
Testing technique	-	1	-	-	-	1	2	6.6%

**Techniques Employed for Data Analysis in the Articles Reviewed**

Data analysis is the study of organized material to discover inherent facts. The data is examined from many possible perspectives to discover new facts. One of the primary functions of data analysis is to examine the problem statement by analyzing the available data (Pandey & Pandey, 2015). Thus, many data analysis instruments are used in research, such as qualitative themes

analysis, descriptive statistics, correlation, ANOVA, and Pearson’s Chi-Square test. The result of this study indicated that qualitative analysis-themes is the most used data analysis technique, accounting for 47.8% (11), and this is then followed by descriptive statistics 34.7% (8), correlation and ANOVA are the least techniques used, accounting for 8.6% (2), respectively. Table 3 summarizes the techniques employed for data analysis in the articles reviewed.

Table 3

*Summary of techniques employed for data analysis in the articles reviewed*

Research Instruments	2016	2017	2018	2019	2020	2021	Frequency	Percentage
Qualitative Analysis-themes	2	-	1	3	1	4	11	47.8%
Descriptive statistics	-	3	-	2	2	1	8	34.7%
Correlation	-	-	-	-	1	1	2	8.6%
ANOVA	-	-	-	-	1	-	2	8.6%

### Area of Research Relating to Quranic Memorization

This research focuses on Quranic memorization, the study's primary objective. The research is related to Quranic memorization and has many aspects that can be studied widely. Examples include the method of Quranic memorization, method of sustaining Quranic memorization, motivation in Quranic memorization, motivation in sustaining Quranic memorization, challenges in Quranic memorization, challenges in sustaining Quranic memorization, and Quranic memorization tools. The findings revealed that methods of Quranic memorization

received the most attention with a total of nine out of 20 articles (45%), followed by motivation in Quranic memorization with a total of five articles (25%), Quranic memorization tools with a total of three articles (15%), challenges of sustaining Quranic memorization with one article (5%), history of Quranic memorization with one article (5%) and factors influencing Quranic memorization with a total of one article (5%). It indicates that for the past five years, research on Quranic memorization has focused on the methods of Quranic memorization. Table 4 presents the areas of research related to Quranic memorization within the specified years.

Table 4

*Summary of the area of research related to Quranic memorization*

Research Instruments	2016	2017	2018	2019	2020	2021	Frequency	Percentage
Methods of Quranic memorization	1	1	1	2	3	1	9	45%
Motivation in Quranic memorization	-	1	-	1	1	2	5	25%

Table 4 (Continue)

Research Instruments	2016	2017	2018	2019	2020	2021	Frequency	Percentage
Quranic memorization tools	-	1	-	1	-	1	3	15%
Challenges of sustaining Quranic memorization	-	-	-	-	-	1	1	5%
History of Quranic Memorization	1	-	-	-	-	-	1	5%
Factors Influencing Quranic Memorization	-	-	-	1	-	-	1	5%

### Summary of Major Findings of the Articles Reviewed

Results showed that there are three major themes: (1) methods of Quranic memorization, (2) motivation in Quranic memorization, and (3) Quranic memorization tools.

#### Methods of Quranic Memorization.

According to Dzulkifli and Solihu (2018), Tahfiz institutions in Malaysia use a variety of methods which include the Deoband method, the Saudi Arabia method, the Indonesia method, and the Panipati method. These methods are used in Malaysia and by institutions in other countries such as Pakistan, Saudi Arabia, Indonesia, and India. The researchers emphasized all these similarities, especially in the teachers' roles in the memorization process. Thus, while the terminology used differs, the methods they practice remain the same. For instance, the

weekly memorization or "*Para Sabak*" is referred to in Deobandi, but in the Panipati method, they used the term "*Al-Hifẓ al-Usbū'ī*" for weekly repetition.

Concerning this, the *al-Ghawthāni* method classified Quranic memorization into three stages: before, during, and after memorization. Having the intention to learn, beginning at a young age, using a single *mushaf* (al-Quran), reciting correctly with teachers, possessing a strong will, and having a good relationship with teachers are the practices before memorization. Furthermore, appropriate time, appropriate place, correct recitation, repeating daily memorization, slow recitation, more focus on the confused verses, appropriate method, and understanding the meaning are practiced during memorization. Next, the practices emphasized after memorization include avoiding aspects Islam prohibits and engaging in systematic repetitions and prayers (Azman et al., 2019). Hence, these

practices are vital to achieving success in Quranic memorization.

Other methods of Quranic memorization used in Darul Quran JAKIM are *talaqqi musyafahah*, *takrir*, *tahsin*, exegesis and writing, chunking method, photographic mind, and multimedia method. The most used method among students is *talaqqi musyafahah* (Abd Ghani, 2017). Besides that, the Arabic language is also important in Quranic memorization because it contributes to Quranic understanding. Hussin et al. (2021) discovered that the better the Quranic understanding among the students,

the better their Quranic memorization. Furthermore, the *tilawati* method of Quranic memorization, which is the most similar to the contextual learning method, positively impacts students. Students will be more motivated to memorize the Quran, and the memory will be retained in their minds for longer. It can also be applied to traditional methods of Quranic memorization, such as *Al Baghdadi*, *Qiraati*, *Iqro*, and *At Tartil* (Siti Ansoriyah, 2020). Table 5 presents studies and major findings related to the method of Quranic memorization.

Table 5

*Studies and major findings related to the method of Quranic memorization*

Author	Topic	Major Finding
Akbar and Ismail (2016)	<i>Method of Tahfidz Al-Quran at the Boarding Schools in the Regency of Kampar</i>	Methods of Quranic memorization used at the Boarding Schools in the Regency of Kampar are repeated reading verse-by-verse without neglecting the <i>Mushaf (an-nadzar)</i> , repetition of verse-by-verse memorization until successful memorization ( <i>al-Wahdah</i> ), depositing or listening what the students had newly been memorized to a teacher ( <i>talaqqi</i> ), memorizing piecemeal of the Quranic verses and reading the verses repeatedly ( <i>takrir</i> ) and listening to the memorized verses of others ( <i>tasmi'</i> ).
Abd Ghani et al. (2017)	<i>Practice of Al-Quran Memorization at Darul Quran JAKIM</i>	<i>Talaqi musyafahah</i> , <i>takrir</i> , <i>tahsin</i> , exegesis & writing, chunking, photographic mind, and multimedia are used by students in Quranic memorization.
Dzulkifli and Solihu (2018)	<i>Methods of Qurānic Memorization (Hifẓ): Implications for Learning Performance</i>	The implication of the concept "memorize and repeat" in learning is known as rote learning. Rote memory enhances practices in memorizing the Quran, which can assist learning.

Table 5 (Continue)

Author	Topic	Major Finding
Athiyah and Islam (2019)	<i>The Innovation of Gabriel's Method in Improving Al-Quran Memorization of Islamic Elementary School Students</i>	The Gabriel approach can help <i>Madrasah Ibtidaiyah</i> students memorize the Quran better. The low ability of students to recall the Quranic memorization has been one of the obstacles encountered when using the Gabriel method.
Azman et al. (2019)	<i>The Practice Level of the Quranic Memorization Method among IMTIAZ Students</i>	The method of Quranic memorization used by the students is <i>al-Ghawthāni</i> . This method is classified into three stages: before memorization, during memorization, and after memorization. The practice level of <i>the al-Ghawthāni</i> method is high among the students.
Siti Ansoriyah (2020)	<i>Implementation of Contextual Learning in Memorizing Al-quran</i>	The most similar contextual learning method to Quranic memorization is the <i>tilawati</i> method. Contextual learning can be applied to the conventional method of Quranic memorization.
Baharudin and Sahad (2020)	<i>Analysis of the Al-Quran Memorization Method by understanding the Meaning in Tahfiz Education Institutions in Alor Setar Kedah</i>	The <i>tahfiz</i> institutions in Alor Setar Kedah used different methods. It is based in Pakistan, India, Al-Azhar (Egypt), the Integrated Tahfiz Science Institute, and Turkey. The four study systems demonstrated a moderate mean and a low percentage of memorization methods by understanding the meaning of the Quran.
Khafidah et al. (2020)	<i>The Application of The Wahdah Method in Memorizing the Quran for Students of SMPN 1 Unggul Sukamakmur</i>	Using the Wahdah method in Sekolah Menengah Pertama Negeri (SMPN) 1 Unggul Sukamakmur significantly impacted the students, as evidenced by the highest percentage of 33 students, or 82.5%, responding yes.
Hussin et al. (2021)	<i>Importance of Arabic Language Schemata in Al-Quran Understanding and Memorization Achievement</i>	The better the students' understanding of the Quran, the better their memorization

**Motivation in Quranic Memorization.**

Motivation is a strong internal spirit to achieve a goal (Sharifah Akam, 2005). In Islam, motivation is classified into

intrinsic and extrinsic, respectively. Intrinsic motivation refers to a person's desire to achieve goals and overcome obstacles. A person with intrinsic motivation does not

require external motivation to complete tasks. On the other hand, extrinsic motivation is the motivation to perform a behavior to avoid punishment and be rewarded (Alizi & Mohammad Zaki, 2005).

According to research, factors influencing students' motivation in Quranic memorization are the students themselves, their families, and their teachers (Nik Abdullah, 2021a). Students strong inner motivation to finish their memorization, family advice, and teachers' role in keeping them motivated to finish their Quranic memorization are the three factors contributing to their success in Quranic memorization.

Furthermore, Ali Hasan et al. (2017) discovered that feelings of love for the Quran and gratitude for the opportunity to remember the Quran are the factors that influence students' Quranic memorization. As a result, their motivational strength has positively impacted their Quranic memorization. Hence, the Quranic memorization level will also increase as a student's motivation increases. In contrast, the lower the student's motivation, the lower the level of Quranic memorization achievement (Ramli & Syed Salim, 2020). Table 6 summarizes major findings from research on motivation in Quranic memorization.

Table 6

*Summary of major findings from research on motivation in Quranic memorization*

Author	Topic	Major Finding
Ali Hasan et al. (2017)	<i>Motivation Factor in the Learning Practice of Quran Memorization</i>	The motivation factor in students' learning practice of Quran memorization is relatively high (mean=3.64). The analysis discovered that feelings of love for the Quran are the most motivating factor for students in Quranic memorization.
Nik Abdullah et al. (2019)	<i>Challenges and Difficulties in Memorizing the Quran in the Tahfiz Classes Among Secondary Learners</i>	The family, the students, and the teachers' roles are three major factors influencing students' motivation in Quranic memorization. Empathy, parents' prayers, advice, continuous repetitions, early morning practices, a smart timetable for memorization, having a partner to memorize with, using punishment, introspection, and additional tools are some techniques students use to overcome challenges in Quranic memorization.
Ramli and Syed Salim (2020)	<i>Motivation and its Relationship Towards the Achievement in Quranic Memorization of Tahfiz School Students in Pahang</i>	This study discovered a positive relationship between motivation and Quranic memorization achievements using the Pearson correlation. ( $r = 0.291$ , $p.05$ ). Meanwhile, an ANOVA two-way analysis of the data revealed a significant interaction between motivation and Quranic memorization achievements from the aspects of age [ $F = 1.452$ ; $p = 0.031$ ], place of origin [ $F = 1.950$ ; $p = 0.007$ ]

Table 6 (Continue)

Author	Topic	Major Finding
Nik Abdullah et al. (2021a)	<i>Exploring Student Motivation in Quranic Memorization in Selected Islamic Secondary Schools (a Case Study)</i>	The family, self-influence, and the teachers' roles are three major factors influencing students' motivation in Quranic memorization. The most influential factor in students' Quranic memorization is their family, which includes their parents and siblings. According to the study, teachers' motivation and encouragement were lacking.
Nik Abdullah et al. (2021b)	<i>Tahfiz Students' Experiences in Memorizing the Quran: Unveiling Their Motivating Factors and Challenges</i>	The three major factors influencing students' motivation in Quranic memorization are self-influence, family, and teachers' influence. Participants' motivation to memorize was hindered by time constraints, lack of motivation, inability to recall, emotional obstacles, and external noise.

**Quranic Memorization Tools.** Quranic memorization tools facilitate the process of memorization. For instance, a mobile application is a simple and effective way to memorize Quran, and 90% of the Quran-memorizing students thought the app was helpful in Quranic memorization (Safar, 2017). Md. Aziz et al. (2019) compared four aspects of *takrar* and *tasmi'* methods of Quranic memorization with modern technology in Quranic memorization, namely the E-Hafiz application, Mobile Quranic Memorization system using RFID technology, and the Quran Companion application. The four aspects compared are systematic scheduling in memorization, user-friendliness in the memorization process, gamification element during the memorizing process, and motivation to complete the al-Quran memorization. Findings revealed that modern technology methods almost fulfilled all categories compared to traditional methods. It indicates

that using modern technology to memorize the Quran can be a viable alternative to traditional teaching and learning methods in *tahfiz* institutions.

Other than that, there are numerous applications or systems in Quranic memorization, including the Al-Quran education module, *Al-Mudarris* Quran Software, Live Quran Tutoring, E-Hafiz, Quran Memorization (Hifz) and Revision Software, Quran Memorizer, Quran Memorization Program, and Quran Memorization Online. Most programs found that repetition, open-close, and pointer/highlight strategies help Quranic memorization. With the looping method, these current programs may show the text and replay the reciter's audio. Some programs include audio recording and memorizing performance management (Mustafa et al., 2021).

Mustafa et al. (2021) researched integrating visual (V), auditory (A),

reading (R), and kinesthetic (K) (VARK) learning styles with Quranic memorization in the EzHifz application. The application integrated the VARK learning style with memorizing techniques such as repetition, keyword, segmentation, visual map, open-closed, pointer, highlighting, and association used to support the process of Quran memorization. By splitting the verse into two or three little parts of colorful objects or images, the visual mode (V) translates the meaning of Quranic verses using segmentation and association techniques. The play-pause or play-stop button can control the audio (A) mode. The text or Quran verse can be selected, and a

segmentation technique can be applied. Then, students may be able to better regulate the process of memorizing long Quran verses with the help of this tool. Text segmentation, pointing, or highlighting techniques are used in the reading (R) mode to display Quran verses and translations. The kinesthetic (K) mode includes a feature of a video of Quran verses that uses body motion and gesture. Based on the evaluation results, the VARK learning style could be integrated with Quranic memorization, and the application is also effective. Table 7 presents the major research findings on Quranic memorization tools.

Table 7

*Research major findings on Quranic memorization tools*

Author	Topic	Major Finding
Safar (2017)	<i>Quran Memorization Using a Mobile App</i>	The overall student view of the Quran App was very positive. They believed that the Quran App was beneficial in remembering Quran, making it easier to memorize and recite Quran verses.
Md. Aziz et al. (2019)	<i>Comparison Between the Conventional Method and Modern Technology in Al-Quran Memorization</i>	Conventional methods and modern technologies for memorizing Quran were compared in four different categories: scheduling for monitoring and management of memorization, usability in the process of memorization, gamification element in the process of memorization, and motivation for completing the memorization of the Al-Quran. Compared to conventional methods, modern technology methods practically met all the categories.
Mustafa et al. (2021)	<i>Development and Alpha Testing of Ezhifz Application: Al-Quran Memorization Tool</i>	All the participants agreed that giving students the option of remembering the Quran using the VARK learning style will provide them with more learning alternatives and allow them to use the program more effectively. It was found that the VARK learning style could be integrated with memorizing techniques based on the evaluation results.

## CONCLUSION

In conclusion, the major findings of the research trends are studies related to Quranic memorization methods. The methods used in Quranic memorization are important for successful Quranic memorization. People are free to choose whichever methods that work best for them. Many Quranic memorization methods are used worldwide, and different terms are used. However, the same practices are followed depending on the region and the country. Hence, “memorize and repeat” refers to the similarities and differences in Quranic memorization methods in Malaysia. It is the most significant standardization of all methods used.

According to the findings, less research has been conducted on sustaining Quranic memorization, with the researchers discovering only one topic related to challenges in sustaining Quranic memorization in 2021. It is because most studies have focused on Quranic memorization but not on sustaining Quranic memorization. Hence, future research should focus on sustaining Quranic memorization in terms of methods, challenges, and motivations because merely completing the memorization is simply insufficient; the main concern is maintaining the memorization. This research implies that it will help students, teachers, and tahfiz institutions improve the quality of Quranic memorization. Furthermore, it will facilitate the process of learning the Quran not only for Muslims but also for non-Muslims who are interested in it. This study also helps highlight the research

trends of Quranic memorization and the gap in Quranic memorization research that has yet to be done by researchers. Finally, Quranic memorization does not end with the completion of memorization; a thorough understanding of the content of the Quran is more important for Muslims in living a devout life.

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## **Factors Determining Online Activities and Technology Use Among Older Adults in Thailand**

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### **ABSTRACT**

In the digital era, the use of technological tools and platforms has become increasingly prevalent among people, including older adults, for various daily activities such as social interactions, online payments or shopping, entertainment, and information seeking. The prudent use of technology by older adults provides several benefits, allowing them to undertake useful or convenient activities easily. Moreover, older adults with functional and up-to-date technological skills have better employment prospects, enabling them to remain financially independent, economically active, and contribute to the national economy. This study investigates whether demographic factors and internet-related behaviour influence online activities among older adults in Thailand. Data were collected through an online survey, and discriminant analysis was utilised to evaluate the hypothesis. The study's findings suggest that gender, education, career, income, time spent online, online media platforms, and preferred online content can predict older citizens' online activities but not marital status. Therefore, to ensure older Thai citizens remain active, well-informed, and connected, this study recommends increasing education, improving the appeal and reliability of digital news and information, and providing income support for older adults.

*Keywords:* Ageing population, older adults, online activities, seniors, technology access

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### **INTRODUCTION**

In 2019, the Foundation of Thai Gerontology Research and Development Institute (2019) conducted research that revealed the older population in Thailand exceeded that of children, accounting for one-fifth of the total population. As the global population ages, it is essential to develop technologies that adequately support older people's lifestyles

(Electronic Transactions Development Agency, 2016). Electronic gadgets and information and communication technology (ICT), such as smartphones and mobile applications, aim to enhance individuals' lives, including older adults (Blok et al., 2020; Sitthipon et al., 2022). Smartphones and social networks facilitate connectivity, while personal computers and the Internet aid personal and corporate tasks, such as online banking, entertainment, shopping, and access to news and information (Taneja, 2021). These technologies make life more convenient, improve the quality of life for older adults and help them overcome physical limitations. For example, internet communication can enable older adults to interact with family and friends when travelling to certain regions is inconvenient or difficult due to health issues (Yellowlees, 2001). Furthermore, digital technology enables the involvement of older adults in numerous activities, strengthens family relationships, and bridges the gap between generations. Therefore, emphasising the acquisition of new information technology skills can improve the quality of life for the older population, allowing them to live independently and comfortably based on their technical abilities (Boz & Karatas, 2015; Niemthong, 2018).

ICT significantly contributes to the individual benefits of older adults and national economic growth. The fundamental economic structure involves the number of employees and the amount of capital, and the amount of labour generated directly impacts the sustainability of the economy. In this

process, technologies are utilised to increase the efficiency of labour supply (Rotz et al., 2019). As evident from the substantial increase in Internet users among the elderly, older adults are now more receptive to embracing technology than in the past (Morrow-Howell et al., 2020). This trend underscores the need for modifications to ICT to fulfil the needs of the growing older adult clientele. In addition to enhancing the quality of life, as previously noted, ICT empowers older adults to continue working under more flexible employment conditions even after reaching retirement age. Being an active part of a community and participating in job processes can boost self-confidence, health, and the overall quality of life in an ageing society (Vanajan et al., 2020). Furthermore, ICT can enhance the potential of older adults, reduce pension and healthcare expenditures, and address concerns about long-term care for older people (Heng, 2009). Research conducted by Auer and Fortuny (2002) highlights that a decline in geriatric productivity is not just a consequence of ageing but also due to outdated job skills and waning enthusiasm for one's chosen career path. Therefore, companies must adjust their organisational structures to provide training to assist older staff when adopting new technologies. As a result, these talented elderly workers can significantly enhance an organisation's performance, leading to long-term economic growth.

Numerous factors influence older individuals' engagement in online activity, and various research studies have

investigated these associations. Education and age are considered the primary factors that impact the web traffic of older adults. Berner et al. (2014) found that being a member of a younger generation and having a higher level of education influenced the online activities of older adults residing in rural and urban areas of Sweden significantly. Additionally, Ellis and Allaire (1999) found a link between age and computer anxiety, whereas Findahl (2011) showed a correlation between older adults' education level and their interest in and usage of computers. Several studies have explored the relationship between household income and internet access. For instance, Morrell et al. (2000) observed that the high cost of internet access discourages older adults from accessing it. Gender is identified as a factor in older people's computer and internet use (Berner et al., 2013). Furthermore, cognitive skills are crucial in individuals' proficiency in technology-based tasks and internet usage (Czaja et al., 2006; Umemuro, 2004).

Hence, exploring the factors influencing the online activities of older individuals is of significant interest. This study investigates the factors affecting online activities among older Thai adults. The study's findings could offer a comprehensive understanding of the online activities in which older adults are involved. It could be useful in developing technology skills among the elderly population to facilitate independent living and participation in the workforce.

## LITERATURE REVIEW

The media demands of an ageing population are unique, and their online activity may

be influenced by personal characteristics such as personality, taste, skill, education, society, marital status, economic status, and physical aspects like health and dwelling. The most popular online activities among baby boomers (people born during the post-World War II baby boom between 1946 and 1964), according to Electronic Transactions Development Agency (2016), are accessing social media, sending emails, reading e-books, and watching YouTube. LINE is the most popular social media platform, followed by YouTube and Facebook. Although older adults make up a minority of internet users compared to Gen X (individuals born between the mid-1960s to early 1980s) and Gen Y (individuals born roughly between the early 1980s and the mid-to-late 1990s), their use of social networking sites has increased significantly and become increasingly popular among the elderly generations. Social media users are primarily located in metropolitan regions, but seniors living in rural areas may also be effectively reached through radio and television.

Various factors contribute to older individuals' engagement in internet activities, and age is a significant factor that influences older individuals' online behaviours. Several studies have shown that elderly individuals of different ages exhibit varying satisfaction levels with social media use. Banthadthong's (2015) study on social network usage behaviour and older adults' satisfaction in Bangkok found that individuals aged 66 years and older reported the lowest level of

satisfaction with social media use due to health problems, visual impairment, and stiff fingers, which may hinder their participation in social media, leading to dissatisfaction. Conversely, other age groups report higher satisfaction with social networking use. Income may also impact social media usage patterns. Ruengsawat (2010) reported that seniors with incomes between 7,001 and 15,000 THB per month exhibit the highest satisfaction with social media use. Seniors with incomes above 15,000 THB per month often continue working and do not typically use social media.

## METHODS

### Population and Samples

The age range that constitutes ‘older adults’ or ‘seniors’ may vary across countries and over time, depending on social class disparities or functional capacity related to labour force participation. However, more frequently, it is determined by the current political and economic environment (Reddy & Jyotsna, 2018). A private group, such as a social club or retail store, can establish its criteria for designating ‘senior’ status. In Canada, a person qualifies for a senior discount, typically at 55 (Legalline.ca, n.d.). Several states in the United States define older people as those aged 55 years and above (Fry, 2021). Therefore, for this research, the elderly population is defined as citizens aged 55 years and above.

The population for this study comprised Thai citizens aged 55 years and over who reside in Thailand, have independent internet access, and are still employed or

working. The sample consisted of 840 participants selected through convenience sampling. The formula for calculating the sample size, based on Yamane’s (1973) computation for a confidence level of 95%, is provided below:

$$n = \frac{N}{1 + (Ne^2)}$$

In the formula, ‘*n*’ represents the sample size, ‘*N*’ represents the population size, and ‘*e*’ represents an acceptable error of 0.05 or 5%. The result of this calculation was 399.9969, indicating that the minimum sample size required was approximately 400. However, to ensure greater accuracy in the data analysis, the sample size was set at 840.

### Online Survey as a Study Tool

Data for this study were collected through an online survey administered to the sample group. The survey was developed based on a review of relevant literature and in-depth interviews with 18 individuals who shared similar characteristics to the study samples but were not part of it.

Initially, the literature was consulted to identify the dependent and independent variables. The independent variables were categorised into two groups: demographic factors (gender, income, education, career, and marital status) and internet usage behaviour (frequent use of online media platforms, preferred online content, and average daily time spent on online activities). The dependent variables were older adults’ online activities, including e-commerce,

chatting, video watching, game playing, and mobile banking.

The results of the in-depth interviews were used to develop questions and answers for the online survey following the study's hypothesis and research objectives. Eighteen individuals were interviewed regarding their internet usage, including their online activities, frequency of use, and the type of content they typically consume. These results were used to create the first draft of the online questionnaire, which was then reviewed for appropriateness by an advisor. Subsequently, the online survey was developed further until it achieved the highest accuracy for data analysis. The final version of the online survey was pilot tested with 30 participants who shared similar characteristics to the study's samples but were not part of the samples. This pilot test ensures that the survey includes all study topics and uses understandable language. The questions were more detailed and precise than those of the previous 18 participants and related to internet usage and online activities. Each question's answer option was previously provided based on the findings of the initial in-depth interviews. For instance, the question, "What do they often do online?" had options such as selling items, shopping, chatting, watching movies, playing games, and accessing mobile banking.

Cronbach's alpha was used to assess the reliability of the online survey before its application in data collection. This study's Cronbach's alpha was 0.863, indicating that the online survey was appropriate for data collection.

## Discriminant Analysis

Discriminant analysis is a multivariate method of categorising objects into groups based on the linear combination of separating features. While multiple linear regression can predict outcomes, its application is limited in cases involving categorical variables (Alkarkhi & Alqaraghuli, 2019). The discriminant analysis comprises two steps: (1) testing the statistical significance of multiple variables using a multivariate test and (2) investigating significant mean differences across the groups if statistical significance exists (Brunner & Giannini, 2011). At the end of the discriminant analysis, a model is created to predict variables in a group and maximising the distance between groups is necessary to create an effective model. This model explains the relationship between the selected variables and the observed predictor variables, and it allows for the assessment of various types of variable contributions (Alkarkhi & Alqaraghuli, 2019). The equation for the discriminant function is presented below:

$$D = v_1X_1 + v_2X_2 + v_3X_3 \dots v_iX_i + C$$

The equation for the discriminant function is as follows:  $D = \sum(v \cdot X) + C$ , where D is the discriminant function, v is the discriminant coefficient or weight for that variable, X is the score of a sample for that variable, C is a constant, and i is the number of predictors (Bartholomew, 2010).

## RESULTS

This study explored the online activities in which Thai older adults participated as the independent variable. According to Table 1, the top five online activities among older Thai adults were e-commerce, chatting, viewing videos, playing games, and mobile

banking. Chatting was the most popular activity, accounting for 31.8%, followed by video watching (28.6%) and mobile banking (27.4%). Game playing and e-commerce were less popular, accounting for 8.7% and 3.6%, respectively.

Table 1

*Thai older adults' online activities*

Dependent variables	Frequency	Percentage
E-commerce	30	3.6
Chatting	267	31.8
Video watching	240	28.6
Game playing	73	8.7
Mobile banking	230	27.4
Total	840	100.0

Table 2 displays the collinearity statistics for each independent variable, including the tolerance and VIF. The tolerance values ranged from 0.668 to 0.948, while the VIF values ranged from 1.055 to 1.496. The variation inflation factor (VIF) values were used to evaluate collinearity, with values greater than four or five occasionally indicating moderate to high collinearity and values of ten or more indicating extremely high collinearity (Bock, 2018). According

to the results in Table 2, the independent variable with the highest VIF was time spent online (1.496), and the independent variable with the lowest VIF was preferable online content (1.055). In this study, the VIF values for all independent variables were below five, indicating no significant collinearity among the independent variables. Thus, all variables were appropriate for use in discriminant analysis.

Table 2

*Test of collinearity between independent variables*

Independent variables	Collinearity statistics	
	Tolerance	VIF
Gender	0.877	1.141
Income	0.717	1.395

Table 2 (*Continue*)

Independent variables	Collinearity statistics	
	Tolerance	VIF
Education	0.687	1.456
Career	0.785	1.273
Marital status	0.820	1.219
Online media platform	0.862	1.161
Preferable online content	0.948	1.055
Time spent online	0.668	1.496

Before creating the model, we examined the equality of group means to determine the potential of each independent variable. Wilks' lambda evaluated each variable's discriminatory power between groups, with smaller values indicating greater potential (Stella, 2019). Table 3 displays the Wilks' lambda values, degrees of freedom, and significance levels for each independent variable. The values for Wilks' lambda ranged from 0.884 to 0.995, indicating that all variables except marital status had the potential for discriminatory power between groups. The statistical significance of each variable was determined based on a significance level of 0.05. Marital status was

not statistically significant ( $p > 0.05$ ) and was therefore omitted from the discriminant model. The remaining eight variables were all statistically significant ( $p \leq 0.05$ ) and remained in the discriminant analysis: gender, income, education, career, online media platform, favourite online content, and time spent online. Among all the independent factors, career offered the most potential, followed by education, gender, income, time spent online, favourite online content, and online media platform, in that order. This result validates the exclusion of marital status from the model, as it had the least potential.

Table 3

*Test of equality of group means*

	Wilks' lambda	F	df1	df2	Sig.
Gender	0.945	12.182	4	835	0.000
Income	0.957	9.311	4	835	0.000
Education	0.901	22.983	4	835	0.000
Career	0.884	27.498	4	835	0.000
Marital status	0.995	0.979	4	835	0.418

Table 3 (Continue)

	Wilks' lambda	F	df1	df2	Sig.
Online media platform	0.986	2.986	4	835	0.018
Preferable online content	0.980	4.361	4	835	0.002
Time spent online	0.970	6.367	4	835	0.000

The results of Box's test were used to evaluate whether two or more covariance matrices were equal. Table 4 displays the results of Box's test, including Box's M value, F statistic, degrees of freedom, and significance level. The F statistic was approximately 7.530, with degrees of freedom of 90.000 and 1435902.073 and a significance level of 0.000. Contrary to assumptions, the test found variance

differences at the significance level of 0.05 ( $p < 0.05$ ), indicating that the covariance matrices were unequal. Despite the significance of Box's test, the set of variables used in the analysis could be maintained. A larger sample size can help minimise the effects of slight deviations from homogeneity, which may have contributed to the observed variance differences (Agresti, 2007; D'Alonzo, 2004).

Table 4

*Box's M tests of equality of covariance matrices*

	Box's M	689.583
F	Approx.	7.530
	df1	90.000
	df2	1435902.073
	Sig.	0.000

Wilks' lambda evaluates how effectively each independent variable level contributes to the discriminant analysis model. It is equivalent to the fraction of the overall variation in discriminant scores that group differences cannot explain. Lesser values of Wilks' lambda suggest a function with a stronger capacity for discrimination. The corresponding chi-square statistic tests the hypothesis that the group means of the given

functions are equal. A low significance value suggests that the discriminant function separates the groups more effectively than chance. As seen in Table 5, Wilks' lambda reflects the importance of the discriminant function ( $p < 0.05$ ).

Wilks' lambda measures the extent to which each level of an independent variable contributes to the model in discriminant analysis. It represents the proportion of the

overall variation in discriminant scores that group differences cannot explain. Lower values of Wilks' lambda indicate stronger discrimination power of the function. The corresponding chi-square statistic tests the hypothesis that the group means of the given functions are equal. A low significance value indicates that the discriminant function separates the groups more effectively than chance. As shown in Table 5, Wilks' lambda reflects the importance of the discriminant function in this study ( $p < 0.05$ ). The table

presents the results of Wilks' lambda test of coefficient significance, including the lambda values, chi-square statistics, degrees of freedom, and significance levels for each function. The test was performed for each level of the independent variables, with functions 1 through 4 showing the strongest discrimination power (Wilks' lambda = 0.668, chi-square = 335.158,  $df = 36$ ,  $p < 0.001$ ). The discriminant function effectively separated the groups of older Thai adults based on their online activities.

Table 5

*Wilks' lambda test of coefficient significance*

Test of function(s)	Wilks' lambda	Chi-square	df	Sig.
1 through 4	0.668	335.158	36	0.000
2 through 4	0.815	170.650	24	0.000
3 through 4	0.913	75.992	14	0.000
4	0.977	19.239	6	0.004

Table 6 shows the results of a back test to compare the projected number of successes with the actual number of successes observed for the four unstandardised equations discussed earlier. The table displays the predicted group membership for each activity, including

e-commerce, chatting, video play, gameplay, and mobile banking. The table indicates that 61.67% of the original grouped cases were correctly classified, demonstrating that the unstandardised discriminant equations could predict group membership with moderate accuracy.

Table 6

*Classification results*

Activities	Predicted group membership					Total
	E-commerce	Chatting	Video play	Gameplay	Mobile banking	
E-commerce	18 (60%)	6 (20%)	0 (0%)	0 (0%)	6 (20%)	30 (100%)

Table 6 (Continue)

Activities	Predicted group membership					Total
	E-commerce	Chatting	Video play	Gameplay	Mobile banking	
Chatting	26 (9.74%)	122 (45.69%)	46 (17.23%)	22 (8.24%)	51 (9.10%)	267 (100%)
Video play	6 (2.50%)	20 (8.33%)	188 (78.33%)	8 (3.33%)	18 (7.50%)	240 (100%)
Gameplay	8 (10.96%)	8 (10.96%)	0 (0%)	49 (67.12%)	8 (10.96%)	73 (100%)
Mobile banking	22 (9.57%)	21 (9.13%)	16 (6.96%)	30 (13.04%)	141 (61.30%)	230 (100%)

Note. 61.67% of original grouped cases were correctly classified

## DISCUSSION

In this study, chatting is the most popular online activity among older Thai adults. When determining the factors that affect the online activities of older Thai adults, the results indicate that participation is influenced by several factors, including gender, income, education, career, online media platform, preferred online content, and time spent online. This finding is consistent with numerous studies suggesting that socio-demographic characteristics, such as age, gender, and education level, can affect older adults' online activities. For instance, previous research indicates that older adults with higher education and income levels are more likely to participate in online activities, including social networking, online shopping, and accessing health information (Choi & Dinitto, 2013). Additionally, age is a significant factor influencing older adults' online activities. As individuals age, they tend to have lower levels of digital literacy, making accessing

and using online resources more challenging. However, research has shown that age alone does not determine online activity levels, as individuals who maintain an active lifestyle and engage in social activities tend to have higher levels of online engagement (Czaja et al., 2019). Moreover, gender also plays a role in older adults online activities. Women are generally more active online than men, with higher social media usage rates and communication with family and friends (Anderson & Perrin, 2018). Digital literacy, which refers to the ability to use technology effectively, is another crucial factor influencing older adults' engagement in online activities. Research has found that older adults with higher levels of digital literacy are likelier to engage in online activities, such as social media, online banking, and email (Xie, 2012).

According to the study's findings, three key aspects could encourage older Thai individuals to participate in online activities and use technology: supporting education,

enhancing the interest and dependability of online news and information, and providing funds.

Firstly, since education is essential for older Thai people to participate in online activities, they require educational assistance to improve the accessibility of such activities. While older adults have fundamental technological abilities, there are alternative courses that could upskill and reskill them, such as e-commerce, trade, finance, cookery, and yoga. According to the Future of Jobs Report 2020 by the World Economic Forum, it was projected that half of the global workforce would require reskilling by 2025 (Schwab & Zahidi, 2020). The rapid advancement of automation and new technologies before the COVID-19 pandemic had already created a pressing need for large-scale upskilling and reskilling, as noted by Li (2022). The current situation has further highlighted the criticality of this need. Therefore, the public and commercial sectors must offer courses in both traditional and online formats to facilitate the integration of the elderly population with modern technology and online activities.

Secondly, favoured online content is one of the significant factors influencing the online activities of older adults. Improving the attractiveness and dependability of online news and information could encourage older adults to engage in online activities. If the content of news and information on online platforms can attract the attention of older individuals, they are more likely to obtain

digital news and information. It would enable internet platforms to dominate the media and become the primary means of obtaining and disseminating news and information. If older citizens want to obtain news and information online, the credibility of such content becomes a challenge. When digital material is accurate, older individuals will access it with more trust. Government agencies may develop dependable digital platforms for posting accurate and appealing digital material to attain this objective. For instance, the Ministry of Health may develop an e-health application to provide health and medication-related information and e-health services for the older population.

Thirdly, income is another issue that affects the online activities of older adults. Therefore, expanding prospects for better salaries among older people must be considered. This study examined the online activities of seniors and found that e-commerce was the least popular. Promoting e-commerce among older Thai adults may be useful so that they can make more money and live independently of younger family members. The public sector and organisations might provide short in-person or online courses to educate seniors with necessary and valuable information. Older e-commerce business owners should be granted incentives, such as tax deductions, to stimulate the formation of new e-commerce enterprises.

It is important to note that this study was conducted during the COVID-19 pandemic, which may have affected the participants'

behaviours. Since most individuals were quarantined and working from home, their behaviours may differ from their typical daily routine. Those at home may have had more time to play online games and view movies than at work. Therefore, when the COVID-19 crisis is over and people are back to their normal work schedules, the assessment may need to be repeated and compared to this research to see if the results have changed.

## CONCLUSION

In conclusion, this study indicates that various factors such as gender, income, education, career, online media platform, preferred online content, and time spent online can influence the online activities of older Thai individuals, including e-commerce, chatting, playing videos or online games, and mobile banking. However, there is no correlation between marital status and participation in internet activities among older Thai adults. In today's digital age, everyone, especially older individuals, must rely on technology for everyday activities, including mobile banking, online shopping, online meal delivery, and online information. Seniors can easily engage in a wide range of activities through online platforms, which can enhance their quality of life, provided they use technology responsibly. Additionally, seniors with effective technology skills have numerous opportunities to continue contributing to the workforce and the national economy, such as delaying retirement.

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## **Derivation Contestations Among Arab Scholars Regarding Ibnu Fāris's Dictionary Maqāyīs Al-Luġah**

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### **ABSTRACT**

The Dictionary Maqāyīs al-Luġah, developed by Ibnu Fāris (d.395H/1004A.D), is one of the most applicable dictionaries in the Arabic language, relying on the idea of derivation in its construction. Some Arabic linguists argue that derivation in the dictionary is a semantic derivation, whereas others claim it is verbal. Al-Suyuti sees small as the only type of derivation. Meanwhile, Muḥammad Jabal states that axial semantics derivation is what the Ibnu Fāris dictionary was built on. This study examines the lack of consensus among linguists on the derivation basis of Ibnu Fāris' dictionary (d.395H/1004A.D) proposed by al-Zajjāj (d.311H/923A.D), who defined Derivation as "every two words that share common letters." On the other hand, al-Ramani (d.384H/994A.D) defined it terminologically as "deducting a branch from an origin." This disagreement over derivation concepts sparked a debate among Arabic linguistic scholars, particularly in determining the type compatible with the derivation concept. It is inconclusive which derivation was applied in building Ibnu Faris' Dictionary. Thus, the current study was proposed in response to the ongoing controversy. This research applied the descriptive approach. Based on the selected corpus, this study explored small derivation and axial semantics types compatible with the derivation concept, and both types were found in the dictionary. Small derivation

meets the derivation criteria in terms of construction, order, and broad connotation, whereas axial semantics controls the internal semantic framework of the linguistic root. Other non-derivations, such as big, bigger, and biggest, are also deemed linguistic phenomena.

*Keywords:* Arabic, derivation, Ibnu Fāris, origin, semantic derivation, verbal derivation

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## INTRODUCTION

The classical Arabic dictionaries provide a complete inventory of all the known words and illustrate their usage in painstaking detail. Arab linguists made it their life's purpose to collect words and build dictionaries, yet "considered the word and the meaning as two separate entities" (al-Ġābrī, 2009, p. 41). It was until Ibnu Fāris (d. 395/1004) came and changed this approach by connecting the linguistic root with the general semantic meaning of the root. He was the first to realize the importance of derivation in the development of Arabic and incorporated it in his dictionary, *Maqāyīs al-Luġah* (the standards of language). In the introduction, he stated,

the Arabs derive some words from others [other languages]; for example, the word *jinn* (demon; spirit) is derived from the word *'iġtinān*, and the two letters of the root, *ġīm*, and *nūn*, always refer to *sitr*, which means hiding or disappearing. (Ibnu Fāris, 1979, p. 41)

The derivation is one of the characteristics shared by all Semitic languages, including Arabic. It is one method to generate new words to enrich a language and ensure healthy development and growth. However, among the Semitic languages, Arabic occupies a unique position due to the accuracy of its created word forms and the broadness of its generation rules ('Abdū, 1991). The derivation is one of the sources of linguistic diversity and richness because it helps generate new words. Every language constantly needs new words to describe the

new realities that its speakers experience. The etymological nature of Arabic is "a way through which [the language] can enrich itself by expanding its vocabulary, express new ideas more effectively and accurately, and keep pace with modernity" (Raūf, 2002, p. 22).

Ibn Fāris built his dictionary on two main concepts. The first is the root letters, and the second is coining words around which revolve the concept of derivation (Naṣṣār, 1988). Nevertheless, Arab linguists disagree on the derivation and whether it applies to the Arabic language (Rāšīd, 2014).

This study investigates the asymmetry of opinion among linguists over the identified derivation from Ibnu Faris's dictionary and the limitations placed on it by their respective fields of expertise. Al-Zajjj, Al-Ramani, al-Suyuti, Muhammad Jabal, and more are a few examples. In addition, this study aims to investigate the types of derivations and see how much of each type was used to create the most well-known dictionary in this sector.

## Arab Scholars' Views on the Concept of Derivation

Arabic linguistic scholars such as al-Zajjāj (d.311A.H/923A.D), Al-Ramani (d.384A.H/994A.D), al-Suyuti (d.911A.H/1505A.D), Muḥammad Ḥasan Jabal, and Abdullah Amin argued over how these differences could be used to identify the different types of derivation, and the extent to which the concept of derivation corresponds with the type of derivation

Ibn Fāris used in his dictionary (Kāzīm & ‘Anād, 2014).

Based on Arab linguists and the constants of their areas of expertise, four categories of verbal derivation are built around them. On the other hand, other people, including Dr. Hassan and Abdul Karim Jabal, thought that Ibn Faris’ dictionary was founded on the fundamental meaning of the words.

Ibn Fāris wrote, “*Šīn* and *Qāf* are one sound root that indicates a crack in a thing, as we say “*Šaqaqtu al- šay’a, ašuquhu šaqqa*,” as “*Šada’uhu*,” which means “I cracked it” (Ibnu Fāris, 1979, p. 170). It is also found that the first to touch on the concept of derivation was Al-Khalil Ibn Ahmed (died 175 A.H) in his dictionary “Al-Ain,” in which he mentioned that derivation is “taking.” Al-Mubarrad followed him in mentioning the forms of the word “*Ištiqāq*” derivation (‘Ali, 2017). As for Al-Ramani (died 384 A.H.), he defined it terminologically by saying, “Deducting a branch from an origin by which the letters of this branch revolve around that origin” (Rāšīd, 2014, p. 387).

As for the meaning of derivation in modern dictionaries, it is noted that there is a development to a more specific and accurate meaning than the inherited meaning. For example, in the modern *al-Mu’ğam al-wasīt* dictionary, the following definition: “[In Arabic language sciences] the formulation of the word from another is according to the rules of morphology” was mentioned in the old dictionaries (Academy of the Arabic Language in Cairo, 2004, p. 489).

Most classical Arabic dictionaries follow the same pattern in explaining the derivation, which suggests that the meaning of the derivation was only developed recently. “The developers of the dictionaries focused on preserving the language as they found it in previous works. They relied more on the knowledge of their predecessors than they trusted the writers of their own time” (Muḥammad, 2002, p. 395). On the other hand, it is found that Arab linguists defined derivation strictly within the scope of their specialization. For instance, the morphologist al-Zajjāj (d.311A.H/923A.D) defined derivation as:

... every two words sharing common letters ... even though one of them has fewer letters than the other; for example, the word *rajul* is derived from the word *rağl*, and the word *‘aql* is derived from the word *‘uqūl*, and this is all according to the clarity of the meaning among the two derivative words. (Muḥammad, 2002, p. 405)

As for the understanding of later scholars, al-Şuyūṭī (d.911A.H/1505A.D; 2004) explained it as “relating a word to another as both have the same root letters, and both are matching in meaning” (p. 65).

Ibn Fāris himself did not explain the theoretical concept of derivation, except in his other work, al-Şāḥibī, where he dedicated one section to it. He wrote:

...does it work analogically? Furthermore, is it what the Arabs say of words being derived from each other? The Arabic linguists unanimously

agreed that the Arabic language has an analogy and that the Arabs derive some words from others, namely that the name *ġinn* is derived from the word *'iġtinān*, and that the two letters root *ġīm* and *nūn* always refer to *sitr*, which means hiding or disappearing. (Ibnu Fāris, 1997, p. 35)

As for the Arabic rhetoricians, they studied the topic of derivation extensively. For example, al-Zamaḥṣārī (d.538A.H/1144A.D; 2009) noted, “derivation means that one meaning is represented by two words or more” (p. 26), and al-Ġurġānī (d.471A.H/1078A.D; 2004) defined the derivation as “forming a word from another, on the condition that they match each other in structure and connotation; however, they are different in terms of their forms” (p. 26).

Al-Zamaḥṣārī’s definition is included in his book *al-Kaššāf*, and it is found that his definition of derivation—taking into consideration that he is the founder of the rhetorical lexical semantic—focuses on the common meaning of the two words, whether as fact or metaphor.

It is found that the morphologists looked at the derivation in terms of its functional meaning of the original and additional letters in its construction, unlike the lexicographers who looked at the word itself, regardless of its different forms (Ḥassān, 1994).

Modern Arabic linguists have offered their definition of derivation. For instance, M. Ġabal (2006) defined it as follows:

After studying derivation and its many definitions, it is concluded ...that derivation is the creation of a word taken from another word to express a new meaning that fits the literal meaning of the original word; or to express a new molded meaning of the literal meaning. (p. 10)

As for Ṣubḥī al-Šāliḥ, it is found that he understands derivation as being based on the root and its original meaning and the common meaning shared by the original and the generated word. He explained it as the “generation of some words from others, and relating them to a single origin that defines their forms and reveal their common, original meaning and revealing their new, special meaning” (Sanūsī, 2016, p. 164).

Western linguists understand derivation as corresponding to etymology, which means the scientific study of the historical development of a word. On the other hand, Dr. Abdullah Amin sees it as “taking a word from another word or more words, with a proportionality between the taken and taken from in the construction and the meaning” (‘Ali, 2017, p. 388). As for Dr. Abdul-Sabour Shaheen, he sees that what is taken from is called “the derived” (‘Ali, 2017).

The term derivation means to take one word from another; conversely, the term etymology is a tool for knowing the historical origin of the word, understanding its historical relation and classification, and the study of these linguistic phenomena to arrive at logical conclusions (Janhunnen, 2015).

Hence, there is an overlap in these two concepts of derivation and etymology, which makes the matter more complicated. Where does derivation end, and where does etymology begin? It is found that some morphologists have taken the lexicographic approach, “getting away from the constructions of the forms, and their suffixes and prefixes that have a functional meaning, in an attempt to create common ground” (Ḥassān, 1994, p. 169). It is also understood that most definitions and concepts neglect the creational aspect of the original root while highlighting another aspect, which is the correlative relationship between the derived word and its origin (M. Ġabal, 2006). Also, most derivation concepts were related to specific ideas, such as taking, extracting, generating, creating, and carving out (‘Ali, 2017).

## METHODOLOGY

Derivation has been the subject of numerous Arabic books and journal articles. However, few have concentrated on the idea of derivation and the extent to which its types correspond to its idea through the dictionary *Maqys al-Luġah*. Therefore, the corpus of books, theses, and research articles about the research was examined as part of this study.

To define the concept of derivation as a linguistic phenomenon and to determine how it was understood and applied by Ibnu Fāris and other scholars, this study used the descriptive approach as a method of scientific analysis related to a well-defined and recurring phenomenon, which helps in objectively achieving results and is

in line with the available primary data. Furthermore, it was done to examine the different definitions of derivation and to discuss and compare the different opinions.

This research also employed the derivation theory as presented by Kāẓim and ‘Anād (2014) in classifying the types of derivation (Figure 1).

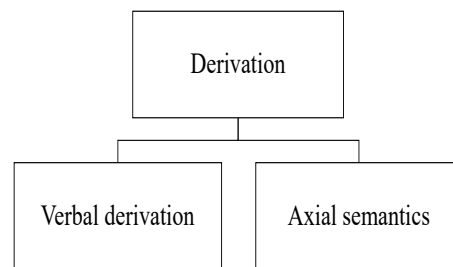


Figure 1. Derivation types by Kāẓim and ‘Anād (2014)

Verbal derivation targets the word only by creating another word in a new form that fits the original meaning of the lexical root. The addition in this derivation becomes the meaning of the template, that is, the formula only. On the other hand, semantic derivation targets the meaning, where the derived word has a meaning equal to the new meaning derived from the meaning of the root (M. Ġabal, 2006).

The semantic analysis of some linguistic roots was based on Ibnu Fāris’ dictionary *Maqāyīs al-Luġah* (1979) to determine the extent to which those types match the standards of derivation and to what extent they conform to this methodology. Due to the research focus on one phenomenon of the Arabic language, this research used IJMES symbols to romanize the Arabic orthography.

## ANALYSIS AND DISCUSSION

According to the classical Arabic linguists, until the end of the fourth Islamic Hijri/tenth century, the concept of derivation was associated with verbal derivation represented in the symmetry of the derivative and the derived form and alphabetical order (M. Ġabal, 2006). Relating the word to its original root contributes to knowing its basic components and defining its connotation based on specific relations (Ĥaydar, 2012). This proportionality between the roots must have standards and rules, which is why Ibn Fāris dedicated his dictionary (*Al-Maqāyīs*) to introduce the standards of those origins to facilitate those after him the concept of attributing words to each other based on the concept of derivation. As he said, “the Arab language has standards” (Ibnu Fāris, 1997, p. 35). Those standards are necessary for derivation, “today, it is not for us to invent or say anything other than what they said, nor to create standards that they did not have” (p. 36).

The originality of the concept of derivation in Arabic made Arab linguists search for those relations and types. However, these early linguists did not mention a specific number of types of derivation; some counted two types and others more. However, the different linguistic schools or approaches can be identified concerning how they studied the concept of derivation: verbal and semantic derivations (Kāẓim & ‘Anād, 2014).

## Verbal Derivation

The derivation is one of the greatest advantages of the Arabic language, as it allows flexibility in developing and generating new words (Darqāwi, 2015). It also allows the language to keep pace with changes and developments. Languages are not static and do not come into existence immediately. They grow and develop and adapt according to the needs of their speakers (Sanūsī, 2016). Therefore, a verbal derivation is nothing but “the generation of some words from others, and relating them to a single origin that defines their forms and reveals their common, original meaning as well as revealing their new, special meaning” (Ĥūyā, 2014, p. 108). Based on this generative aspect, many types of derivation arise, differing in their names according to the derivation type. Some linguists distinguished between small and large derivations; for example, Ibnu Ġinnī (1955b), in his book *al-Ĥaṣā’iṣ*, said, “the derivation for me is of two types: large and small” (p. 135). The derivation is based on four types: small (*ṣaġīr*), big (*kabīr*), bigger (*‘akbar*), and biggest (*kubbār*; *Al-Ṭayyib*, 2017).

## Small Derivation (The General Derivation), (’Iṣṭiqāq Ṣaġīr).

Small derivation (’*isṭiqāq saġīr*) is considered the most important section for morphologists and the most widely used among Arabs (Rāšīd, 2014). Therefore, the concept of small derivation is not much different among contemporary linguists compared to past linguists. Arabic language books and

dictionaries contain numerous references to the small derivation (*'ishtiqaq ṣaġīr*). Perhaps Ibn Al-Sarrāġ (d.316A.H/928A.D), the student of al-Mubarrad (d.284A.H/898A.D), was correct when he argued that derivation was the beginning of the grammaticalization trend. He wrote a separate treatise on this subject. Ibnu Ğinnī (1955b) mentioned it in his *al-Ḥaṣā'is*: “it is the smallest derivation, and Abu Bakr, may Allah have mercy on him, presented it in his treatise perfectly, so there is no need to repeat it here; Abu Bakr spared no effort to make it perfect, in all its aspects” (p. 134). Ibnu Ğinnī is considered the first scholar to discuss the topic of derivation in full. He followed a single approach which was “to abide by the same way of letters sequence, without changing or distorting it” (Ibnu Ğinnī, 1955a, p. 13).

Therefore, the concept of small Derivation was not much different among contemporary linguists from past linguists. The small derivation, or the general derivation as modern Arab linguists call it, is understood as “deriving a word from another word, as long as they match in the meaning, number of letters, and order of letters” (Al-'Abdulillah, 2020, p. 161). Others define it as “deriving a word from another word that has a different form, as long as they are matching in meaning and the original letters, and their order” (Al-Ṭayyib, 2017, p. 396).

This type of derivation was called ‘small’ or ‘general’ due to its clarity and frequent use by the Arabs. It was formed by combining the multiple meanings of the same origin (Sanūsī, 2016). The linguists described it as:

all words are related to one form, the root. For example, the word *ḍarb* refers to beating or hitting in general, while the derivative words *ḍārib*, *maḍrūb*, *yaḍrib*, and *'iḍrib* have more letters than the root and more connotations. However, the past verb form *ḍaraba* is equal to the letters of the root and is thus closer semantically. All these forms have the same root ḍ-r-b (*dal*, *ra*, and *ba*) and follow the same principles in their construction. (al-Ṣuyūṭī, 1998, p. 275)

Every tripartite root in Arabic carries a basic meaning reflected in every construed word form containing the same three letters. As long as these three letters remain in the same order as the original root, the basic meaning is retained (Ḥūyā, 2014). Therefore, this type of derivation must fulfill three conditions to be valid: (1) it has the same number of letters as the root, (2) it has the same order of letters as the root, (3) there should be a common connotation between the derived word and original (Sanūsī, 2016).

This derivation occurs either by adding one or more letters to the root as the additional letters (k-t-b), which results in words like *kataba*, *kātib*, and *yastaktib* or changing the vowels according to the morphological system, i.e., the root (f-h-m), which result in *fahima*, *fihm*, and *fāhim*, alternatively, even by removing one of the original letters such as in the root w-'-d, which result in *'id*, and *'idatun* (Abu Sulimān, 1993). This type of word formation is unique as it is the most analogous in the language. It allows the speaker to create

new words by extension to express new ideas, yet without losing the connection to the broader, original meaning (Kāẓim & ‘Anād, 2014). It is agreed that the varying meanings of all derived words share a common connotation that is represented in the root, despite their different forms and constructions, as detailed by Ibnu Ġinnī in *al-Ḥaṣā’iṣ* (Darqāwī, 2015).

Examining this type of derivation according to the approach taken by Ibnu Fāris, it is found that he did not state the types of derivation explicitly; instead, he acknowledged the concept of derivation as such. He wrote, “the Arabs derive some words from others. For example, the word *jinn* is derived from the word *’iğtinān*” (Ibnu Fāris, 1997, p. 35). Moreover, his dictionary *Maqāyīs al-Luġah* discusses words from the derivative and the linguistic perspective (al-Šanbarī, 2016).

For instance, as shown in Table 1, Ibnu Fāris gives the root of the word *bakr* as *b – r – k* (*bā*, *kāf*, and *rā*) and explains that it has two semantic branches: the first meaning is ‘the beginning of,’ the second meaning is derived from it, and the third is a simile. The first one is the word *bukra*, which means *ġadā* (early morning), with the plural *bukrun*, and the other three forms, which mean moving/walking early morning, which are *tabkīr*, *bukūr* and *ibtikār* (Ibnu Fāris, 1979, p. 287). It indicates that Ibn Fāris applied the concept of small or general derivation in building his dictionary and organized the word entries accordingly. He gives the example of the original word *bakr* and the derived word *bukra* and states that both carry the same connotation, namely ‘the beginning of.’ Furthermore, both words contain the same three letters of the root (*b-k-r*) in the same order as all the derivational variations.

Table 1

*Small derivation (the general derivation)<sup>1</sup>*

Base letters	Root	Root meaning	Derivative word	Word meaning	Patterns
ب + ك + ر B + K + R	بكر Bakra	أول الشيء ويُدَّوه The begging of something and the first of it	بُكْرَةٌ Bukrah	الغداة <i>Al-Ġadāt</i> The time between dawn and sunrise	فُعْلَةٌ Fu‘lah
			بُكْرٌ Bukar	جمع للغداة Plural of word al-ġadāt	فُعْلٌ Fu‘al
			تَبْكِيرٌ Tabkīr	المضي في ذلك الوقت المبكر Go on at early of that time	تَفْعِيلٌ Taf‘īl
			بُكُورٌ Bakūr	المضي في ذلك الوقت Go on at early of day	فُعُولٌ Fa‘ūl

<sup>1</sup> Based on small derivation, “deriving a word from another word, as long as they are matching in the meaning, number of letters, and order of letters” (Al-‘Abdulillah, 2020, p. 161). Every derivative word contains the basic letters in the same order and shares the common thin link of the axil meaning of the time (Table 1).

**Big Derivation (Permutation), (ʿIṣṭiqāq Kabīr).** It is the second and bigger type of derivation. It is achieved by rotating the position of the word's original root.

...by setting a common connotation of the triple origin and its six derivatives, in which the six structures ...have a common connotation. If the meaning of one form is a bit far from the common connotation, it is interpreted as still being related to the origin. In this way the experts of derivation treat a single construction. (Ibnu Ğinnī, 1955b, p. 136)

The axis of the derivative is the main connotation that combines all these alterations, as there will be a shared “similarity in the letters and the meaning, despite the different order of the letters” (ʿIyyād, 2015, p. 247). In other words, there is a logical connection between the derived forms and the origin. Ğurġānī gives the example of *ġabada* derived from *ġadaba*.

The connotation of the derived forms should be related to the original connotation of the root, even if only metaphorically. Furthermore, the number of letters must be proportional, even if the order of the letters is different (Al-ʿAbdulillah, 2020). An example is the triple root (ġ-b-r), as listed in *al-Maqāyīs* (Table 2).

Table 2

*Big derivation (permutation)<sup>2</sup>*

Base letters	Root	Base letters of the root	Root meaning
ج + ب + ر ġ + b + r	جَبَرَا ġabara	ġ - b - r ج - ب - ر	It refers to a kind of greatness, highness, and exactitude.
	جَرَبَا ġaraba	ġ - r - b ج - ر - ب	Something that grows on the surface of something, like on the skin. A thing that contains another thing.
	بَجَرَا baġara	b - ġ - r ب - ج - ر	The intensity or complication of a matter.
	بَرَاġَا baraġa	b - r - ġ ب - ر - ج	Appearance. A hiding place or a shelter.
	رَجَبَا raġaba	r - ġ - b ر - ج - ب	To support or strengthen something.
	رَبَاġَا rabuġa	r - b - ġ ر - ب - ج	The confusion

<sup>2</sup> There is a logical connection in the big derivation between the Permutations or derived forms and the origin by rotating the position of the word's original root (ʿIyyād, 2015). By choosing three main letters, g, b, and r, as examples and looking at these basic letters in Ibnu Faris's dictionary, six roots can be found by rotating the position of the three basic letters. Besides that, there is a common meaning between these permutations.

Ibnu Ğinnī (1955b) confirmed it in his *al-Ḥaṣā'is*, where he explained that the root *ğ-b-r* carries a basic connotation, namely strength, and intensity. Having a look at the variations one by one, it is found that they all reflect different levels of strength and intensity and refer to different contexts. It is what he meant by “interpreted as related to the root” (Ibnu Ğinnī, 1955b, p. 134).

Table 3 shows the differences between derivation and big derivation (Permutation) based on the concept of big derivation and analyzing the Permutations. Also, Table 3 shows many differences between the big derivation and derivation.

According to Ibnu Ğinnī and others who followed his approach, this derivation is only reflected in a few words. According to Al-Suyūṭī, what encouraged Ibnu Fāris to mention this type of derivation was to prove his linguistic ability, and

the possibility of combining many words around a common meaning, with his recognition and knowledge that this type of derivation is not the correct way of categorizing those forms. Their basic structures convey meanings different from the common meaning he claimed they were derived from. Moreover, the reason why the earlier linguists ignored this type is that the number of letters is limited, while the number of derived words is almost unlimited, so they allocated one meaning to each construct. (al-Ṣuyūṭī, 1998, p. 275)

Contemporary Arabic scholars do not accept this type of derivation. For instance, Ibrāhīm Ānis and Ṣubḥī al-Ṣāliḥ criticized Ibnu Ğinnī for including this type of steady derivation. However, others have defended its inclusion as a part of phonetic development (Rāšid, 2014). It is because

Table 3

*Similarities between derivation and big derivation (permutation)<sup>3</sup>*

<b><i>Derivation</i></b> <b><i>(‘ištiqāq)</i></b>	<b><i>Big derivation (permutation)</i></b> <b><i>(‘ištiqāq kabīr)</i></b>
Extract one word from another	Rotating the position of the base letters
Build two words in different forms	Build words in the same form
There is no difference in the order of the letters in the words	There is a difference in the order of the letters in the words
Participation in the same meaning and an increase in meaning by adding the word structure	There is a difference in the meaning
Extensive semantic relations	Limited semantic relations

<sup>3</sup> Based on the concept of Big Derivation and analyzing the Permutations, it can be seen the process of constructing Big Derivation words, which appears in building the forms, specifying the basic letters, specifying the order of those letters, the meaning of each form, and the semantic relation between them, comparing it with the derivation as confirmed by Dr. Syed Mustafa (Muṣṭafā, 2017).

this type of word formation is based on the rotation of the root letters, originally the idea of al-Khalil bin Ahmed in an attempt to keep a record of the used and unused forms found in the language, in addition to the concept of general meaning as established by Abū ‘Alī al-Fārisī (Al-Ṭayyib, 2017). Also, Ibnu Ğinnī himself admitted that his approach might be wrong. He wrote, “know that we do not claim that this applies to the whole language, just as we do not claim that the minor derivation is found in all cases” (Ibnu Ğinnī, 1955b, p. 138).

Where Ibnu Fāris had problems relating the root to a general meaning, he gave it two different general origins. He did not list all the derivations of the word in question, instead related the derivations to the general origin. The goal of his dictionary was not to keep a record of the language and all its forms but rather to prove the analogy of the origin of the derived words (Šarīf, 2016). It is what prompted ‘Abd al-Salām Hārūn, the editor of Ibn Fāris’s dictionary, to conclude that “the reason why Ibn Fāris titled his dictionary *Maqāyīs* is nothing but the big derivation, by determining the one root the origin to which all variations go back” (Ibnu Fāris, 1979, p. 39).

However, this claim is not entirely true. It does not seem reasonable that Ibnu Fāris would build his dictionary based on a concept that he knew was not a common phenomenon in the language. However, looking into his approach to derivation more closely, it is found that the small type of derivation better fits the concept than the big derivation in terms of construction,

meaning, and analogy. Al-Tamīmī and al-Zabīdī (2015) have confirmed it. They argued,

the link between these two types of derivation [small and large], may be the reason for the confusion among researchers ...Ibnu Fāris did not work on it [the big derivation], but instead worked on the small derivation and expanded on it. (p. 221)

**Bigger Derivation (Substitution), (‘Iṣṭiqāq Akbar).** This type of derivation is called linguistic substitution. It is defined as:

the extraction of a word from another as the derivation match in meaning and has the same number of letters, by substituting some of the letters that have similar articulation such as *nahaqa* and *na‘aqa*, *baḥthara* and *ba‘thara*, and *ğathā* and *ğadā*.” (Kāzīm & ‘Anād, 2014, p. 41)

It depends on the altered letter being phonetically proportional in the articulation to its substitution (Ibnu Ğinnī, 1955b). If they are not similar in their articulation, then they cannot be called substitutes, as stated by Ibn Sīdah in his book *al-Muḥaṣṣaṣ* (Ibnu Sīdah, 1996).

Ibn Fāris acknowledged the existence of this type of derivation and wrote, “the Arabs used to substitute letters; for example, they say *madaḥahu* and *madahahu*, and *faras<sup>un</sup> rif<sup>un</sup>* and *rif<sup>an</sup>*. This matter is well established in the literature” (Ibnu Fāris, 1997, p. 154).

As for the Bigger Derivation (Substitution), it was associated with the phonemic change in the phonemic group

that made up the word while maintaining the same phonemic arrangement that preserves the general concept of the connotation of the original root, with a convergence in the articulation and quality between the original and the substitute (Rāšīd, 2014), i.e., the substitution between the lam and the ra in words Hadīl and hadīr, in which both of them refer to a kind of “sound” (Table 4). However, the first is the sound of the pigeon, and the second is the sound of the camel. So, the two phonemes, *lām* and *rā*, have the same articulation, voiced letters, and the same quality lowered letters.

However, modern Arab linguists believe that the occurrence of this type of derivation—if it can indeed attribute to derivation—is due to phonetic development. In this respect, Ibrahim Anis considers that the substitution or variation of dialects,

especially if it occurs in the substitution of a letter or it is revealed in two words having the same meaning, it is likely that one of them is the origin and the other is a branch of it as a result of phonetic evolution (Kāzim & ‘Anād, 2014). Perhaps this is due to the rhetorical transposition of similar letters, either in how they are shaped or pronounced (‘Abbās, 2014).

Ibnu Ğinnī differentiated between the bigger derivation and the other two types. Under the heading chapter on the similarity of words for the similarity of meanings, he discussed cases such as the word *’azza* as closely related to *hazza*. Both words have the same articulation and are close in meaning, where the letter *hamza* substituted the *hā* for its power (Ibnu Ğinnī, 1955b). As for Ibn Fāris, he listed it in the substitution *ibdāl*, not derivation. Al-Suyūṭī followed him in

Table 4

*Similarities between derivation and bigger derivation (substitution)<sup>4</sup>*

<b><i>Derivation</i></b> <b><i>(’ištiqāq)</i></b>	<b><i>Bigger derivation (substitution),</i></b> <b><i>(’ištiqāq akbar)</i></b>
Extract one word from another	Replace a letter with another of the root base letters
Build two words in different forms	Build words in the same form
There is no difference in the order of the letters in the words	There is a difference in the letters
Participation in the same meaning and an increase in meaning by adding the word structure	There is a difference in the meaning
Extensive semantic relations	Limited semantic relations

<sup>4</sup> Bigger Derivation is the “extraction of a word from another as they match in meaning and have the same number of letters, by substituting some of the letters that have similar articulation” (Kāzim & ‘Anād, 2014, p. 41). From this concept and the Derivation concept, it is found that replacing one basic letter with another in the root structure has a phonemic convergence, which affects semantic relations. This phonetic transition led to the semantic relationship's limitation because the root went from the original construction to secondary construction, which Dr. Syed Mustafa confirmed (Muṣṭafā, 2017).

that aspect in his chapter on substitution (al-Suyūṭī, 1998). It suggests that this supposed type of derivation is indeed contrary to the nature of derivation (Rāšīd, 2014).

**Biggest Derivation (Coining New Terms), ('Iṣṭiqāq Kubbār).** The early Arabs tended to shorten their speech and be as concise as possible in their statements. Al-Alūṣī (1988) gave this as a reason for a particular type of new word formation: coin a term by inventing a new word or expression or using an existing term in a particular way for the first time. In this way, they were able to say what used to require several words in just one word.

Linguists called this type of derivation ‘coining,’ and Ibnu Fāris defined it as “to coin one word out of two words” (Ibnu Fāris, 1997, p. 209). He gives the example of ‘saying the *basmala*’ instead of ‘saying *bismil-lāhir-rahmānir-rahīm*’ or *ḥayhala* instead of saying *ḥayya ‘ala* (Table 5). This new word formation is:

to combine two or more words with different meanings and shapes—there is no harm if they match in some letters, and they have a kind of similarity in meaning—and deliberately delete some letters from the two words. The remaining letters are used to create the new word. (Al-‘Abdullillah, 2020, p. 164)

Table 5

*Biggest derivation (coining new terms)*<sup>5</sup>

Coining word	Meaning	Coining type	First root	First root meaning	Second root	Second root meaning	Third root	Third root meaning
صَلْدَم <i>Ṣaldam</i>	Strong horse	Coining from two roots	صَلَد <i>Ṣalada</i>	Hard rock	صَدَم <i>Ṣadama</i>	Hit the hard thing like it	-	-
السَّحْبَل <i>Sahbal</i>	Wide valley	Coining from three roots	سَحَل <i>Saḥala</i>	Pour	سَبَل <i>Sabala</i>	الْصَّبُّ أَوْ الْإِمْتَدَاد <i>al-ṣabḥ au al-imtadad</i>	سَحَب <i>Saḥaba</i>	الْإِمْتَدَاد <i>al-imtadad</i> Extension
بِسْمَل <i>Basmala</i>	Saying bismil-lāhir-rahmānir-rahīm	Coining from two words	اسْم <i>Ism</i>	Name	اللَّهِ <i>Allah</i>	Pour or Extension Allah (God)	-	-
حَيْعَل <i>Ḥayhala</i>	Come on	Coining from two words	حَيَّ <i>ḥayya</i>	come	عَلَى <i>'ala</i>	on	-	-

<sup>5</sup> “The biggest derivation is to coin one out of two words” (Ibnu Fāris, 1997, p. 209). This concept can be observed in the last part of each chapter letter in Ibnu Fāris’s dictionary, in which he built them on more than three basic letters. The coining occurs when a word is extracted from two words by deleting some of their letters, as in the word “Basmalah,” or by taking a word that is consistent in construction from a group of word sounds so that each letter has its significance in the new word, such as the word “Sahbal.”

Ibnu Fāris created *al-Maqāyīs* based on two ideas, one of which is the concept of coining new terms, especially if the radicals consist of four or five letters (al-Ġāmdī, 2010). In his other work, *al-Ṣāḥibī*, he stated that “the Arabs used to call a strong horse *ṣillidm* that is taken from the two words (*ṣalad* and *ṣaḍam*). These terms are also included in *al-Maqāyīs*” (Ibnu Fāris, 1997, p. 210). Furthermore, wide valley *Saḥbal* is taken from the three words *Saḥala* (pour), *Sabala* (pour or extension), and *Saḥaba* (extension), which are also included in *al-Maqāyīs* (Ibnu Fāris, 1979).

The concept of forming new words by coining new terms was acknowledged by Ibnu Fāris when building his dictionary. He included several four-and-five-letter words that were coined in three different ways: (1) from two words that are correct in meaning and normal in form, (2) from one four-letter word that has gained an extra letter, and

(3) following no particular pattern (Ibnu Fāris, 1997). However, standard Arabic forms should be taken into account in the coining process to ensure a kind of phonetic harmony between the letters (al-Tamīmī & al-Zabīdī, 2015).

Looking at all the word entries as they appear in his dictionary, it is found that the number of newly coined terms is few and does not exceed sixty words (Amīn, 2000). In contrast, Ṣubḥī al-Ṣāliḥ alleged to have found more than five times this number. Upon completing a detailed statistical analysis, he found “no less than 300 coined words categorized under verbs and adjectives” (al-Ṣāliḥ, 2009, p. 258).

Table 6 discusses coining and the method of its construction, where it is found that it does not conform to the derivation conditions. It can be safely called a linguistic derivation in terms of extraction, but not from an idiomatic point of view. Ibnu

Table 6

*Similarities between derivation and biggest derivation (coining new terms)<sup>6</sup>*

<b><i>Derivation</i></b> <b><i>(’išṭiqāq)</i></b>	<b><i>Biggest derivation</i></b> <b><i>(Coining new terms)</i></b>
Extract one word from another	Extract one word from two words or more
Build two words in different forms	Build the word in different forms
There is no difference in the order of the letters in the words	There is a difference in the letters
Participation in the same meaning and an increase in meaning by adding the word structure	There is a difference in the meaning
Extensive semantic relations	Limited semantic relations

<sup>6</sup> The concept of coining words has different rules that place it between derivation and coining new terms. For example, the biggest derivation is represented in extracting one word from two or more words, whereas derivation extracts one word from another. Moreover, the structure of the extracting word has different forms and basic letters in Biggest Derivation, which has a limited effect on the semantic relations due to building odd word structure based on the special language needs condition.

Fāris and others considered it as a type of shortening (“the Arabs coin one word out of two”) rather than derivation in the sense of semantic expansion (Ibnu Fāris, 1997, p. 209).

Analyzing the biggest derivation (coining new terms), extracts one word from two or more roots, affecting the word’s structure as the new word builds from selected letters, not all from each root. Besides that, it is found that the new word has a common meaning from all root meanings. This extraction of meaning has a limitation of semantic relations due to the odd way to build a new word, unlike derivation (*’Iṣṭiqāq*).

### Semantic Derivation (Axial Semantics)

This type of derivation was studied in detail by ‘A. K. Ġabal (2000) in his research on axial semantics in the *Mu’jam maqāyīs al-luġah* by Ibn Fāris. He found that Ibn Fāris considered this type of derivation as syntagmatic derivation, which determines

the meaning through its axial semantics of the general meaning.

‘A. K. Ġabal (2000) explained that Ibnu Fāris’s use of the terms *al-aṣl* and *al-qiyās* to illustrate the concept of axial semantics upon which he built his dictionary. Ibn Fāris achieved this by referring to the general semantic origins of the linguistic root from which other connotations of words are derived (‘A. K. Ġabal, 2000). This finding was confirmed by the subsequent research undertaken by Jawad Inad and Khalil Kazem, who concluded that the approach of Ibn Fāris does not include any verbal derivation, but rather, he deliberately related the branches of the linguistic root to an original general connotation (Kāzīm & ‘Anād, 2014).

Considering this, the root is the axis of the semantics, and then the rest revolves around this nucleus (Figure 2).

Alternatively, in Figure 3, the general connotation is the focus of the rest of the derivations, towards the connotation of the root *Šaqq*/ شق .

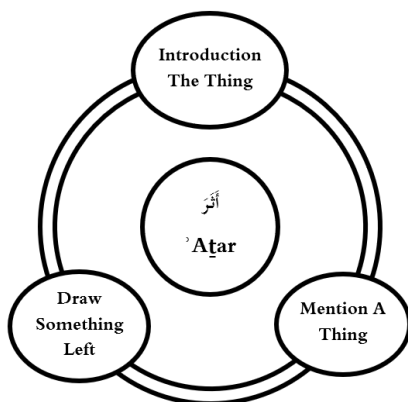


Figure 2. The root is the nucleus

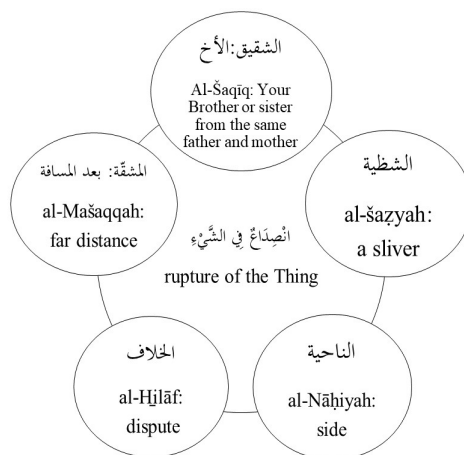


Figure 3. The axial semantic is the nucleus

The root is the basic nucleus of the derivation (Figure 2), and at the same time, the axial semantics are the nucleus of the derivation as well (Figure 3). There is no difference between axial semantics and derivation except in how the matter is viewed (Table 7). Considering the root,

we can see that derivation is extracting one word from another in many different forms. It comes with a variety of meanings. On the other hand, if we look at axial semantics, the semantic derivation will be the nucleus of the derivation.

Table 7

*Similarities between derivation and semantic derivation (axial semantics)<sup>7</sup>*

<b><i>Derivation</i></b> <b><i>('ištiqāq)</i></b>	<b><i>Semantic derivation</i></b> <b><i>(Axial semantics)</i></b>
Extract one word from another	Extract multiple semantic derivations from the original meaning
Build two words in different forms	Build two words in different forms
There is no difference in the order of the letters in the words	There is no difference in the order of the letters in the words
Participation in the same meaning and an increase in meaning by adding the word structure	Participation in the same meaning and an increase in meaning by adding the word structure
Extensive semantic relations	Extensive semantic relations

## CONCLUSION

The derivation has been identified based on the field of study and expertise. Al-Zajjāj defined derivation as based on the sharing of common letters. However, Al-Ramani sees it as a deducting procedure. Meanwhile, al-Suyuti posits that the derivation is “relating.” Conversely, Muḥammad Ḥasan Jabal sees derivation as a “creation” process. Furthermore, Abdullah Amin sees it as “taking.”

By testing some words and roots according to the types of derivation and comparing them with the concept of derivation, the small derivation and the axial semantic are used to construct Ibnu Faris’s Maqys *Al-Luḡah*, even though all sorts of derivations are described in the dictionary. It is due to the small derivation’s limited ability to satisfy the construction, order, general connotation, and control root structure requirements of derivation.

<sup>7</sup> There is no substantial difference between derivation and semantic derivation either in the form, basic letters, or semantic relations. However, the only difference is the focus of each of them, as derivation focuses on the verbal derivation of the word and the semantic link between the root and the derived word. In contrast, semantic derivation focuses on controlling the process of semantic derivation within the word by linking it to the original meaning of the root.

On the other hand, axial semantics governs the linguistic root's underlying semantic structure in a different meaning, where the axial derivative controls the roots' semantic internal connections, and the small derivative controls the morphological structure of the root. It confirmed the theory of derivation and its types presented by Kāzim and 'Anād (2014) and achieved the objectives of the study, thus reflecting the validity of its perspective, content, and structure.

The other sorts of derivation, such as big, bigger, and biggest, are found as linguistic phenomena but not derivations. For example, the big derivation (permutation) has no big similarity to derivation. The permutation type reflects different root levels and uses it to rotate the Arabic root. This reflection on the root letters' order, as different roots for the same root base letters, reflects on the root semantic. The roots that share the same base letter have different meanings, even if they are related. Also, the bigger derivation (substitution) does not exactly match the concept of derivation and its construction in terms of the same letters or meaning. Moreover, coining has been used for the odd word to make root standards.

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## **Multidimensional Poverty Assessment in Pakistan: Does Household Dependency Escalate Poverty?**

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### **ABSTRACT**

The household dependency ratio on young or old family members is considered a major determinant in poverty when human capital cannot support the family income. Since the elderly suffer a significant risk of poverty and make up an increasing percentage of the population, the country's economic inequality is quite sensitive to population ageing. Family size adversely affects household well-being when focusing on children under 15 and adults over 65. The dependency increases the burden on bread earners and reduces consumption expenditure. The current study uses family reliance and the multidimensional poverty concept to analyse how poverty is distributed throughout different provinces. The current study intends to provide poverty analysis across all four provinces of Pakistan using the Alkire and Foster method of multidimensional poverty indexes from Household Integrated Economic Survey data. The study found that increasing child dependence significantly reduces consumption and exacerbates poverty. The Seniors Dependency Indicator demonstrates that as the elderly population in Sindh, Punjab, and Khyber Pakhtoon Khwa (KPK) declines, poverty decreases. All provinces saw an increase in the prevalence of child poverty, with the highest KPK rates in Punjab (6%) and Sindh (4%), respectively.

Since the functional sector does not have to shoulder the full load, the government should set up safety support mechanisms for these segments to lessen the burden on wage workers. According to the survey, access to clean water and literacy rates are the other leading indicators of poverty alleviation.

**Keywords:** Alkire and Foster method, children and elder dependency, consumption expenditures, hies Pakistan, uni and multi-dimension poverty

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## INTRODUCTION

Pakistan has struggled with poverty constantly since its independence. Numerous causes contribute to poverty in the region, such as natural disasters that cause financial losses, rapid population expansion, illiteracy, an unstable economy, and income disparities within a nation. The policymakers have always kept the state of poverty in mind while making policies, and it has always been a challenge for them to overcome (Naseem, 2012).

Poverty is a difficult subject to understand, especially due to its complexity. Many surveys have been conducted to define the factors, consequences, and causes of poverty, which are quite different but may seem indifferent at some level. Every bit, they go side by side. Poverty reduction improves socioeconomic status, such as education, health and employment. On the other hand, the deterioration of these dimensions also plays a significant role in aggravating poverty. Income helps the poor to get out of extreme poverty by improving their socioeconomic status and helping them to earn a higher income in the coming future. A person tends to be healthier than individuals with lower status when they have a reputable source of income (Bradley & Corwyn, 2002).

Health is considered the wealth of a nation; better health leads to higher income and a significant surge in economic growth, especially in the case of developing countries (Bloom et al., 2010). Consequently, the various aspects of socioeconomic statuses, such as the one mentioned above, are

considered to be the causes, effects, and factors of poverty, especially in developing countries where the socioeconomic situation of the population is generally depressing and depends on the household members for any kind of improvement (Khan & Zerby, 1981).

Until 1970, the concept of poverty was viewed in terms of money, but they did not accurately reflect and assess the condition of poverty. Therefore, there has since been a steady change towards non-income indicators to indicate poverty and a person's socioeconomic situation. Chakravarty et al. (2008) simultaneously consider multiple dimensions of deprivation, such as health, education, and living standards, to measure multidimensional poverty. The decomposition approach allows for the examination of the relative importance of each dimension in explaining overall poverty.

These non-income indicators of poverty include housing, literacy, and wellness. Sen's capacities theory, which views poverty as a result of human inabilities like lack of freedom, provides substantial support for this claim. At the same time, Sen (1987) looked beyond that point by defining well-being based on the functional ability of individuals in a society. Individuals above the poverty line may even be pitiful if they cannot live up to basic functioning within a society due to a lack of health and education.

The multidimensional approach considers not just income but also other aspects, including health, housing, and social needs to determine poverty through a multidimensional poverty index developed

by Alkire and Santos (2010) using the “dual-cut-off method.” This method identifies a person who falls below several dimensions of poverty by establishing a poverty line of 1.90 USD per day for Pakistan. The method then estimates poverty by aggregating the various components and creating a relative deprivation index (Zeumo et al., 2014).

Multidimensional poverty is becoming increasingly common in many developing countries. The comparison of multidimensional poverty indicators is useful for understanding the state, characteristics and distribution of multidimensional poverty. The efficacy of targeted poverty alleviation measures on multidimensional poverty eradication is assessed by Wang et al. (2022), who also look at the spatial characteristics of poverty throughout China’s provinces and districts between 2010–2014 and 2016–2018. The relationship between education and China’s multifaceted poverty status is another topic covered in this paper.

In Ethiopia’s rural families, Bersisa and Heshmati (2021) evaluate the extent of multidimensional poverty and explore its causes. The findings indicate significant differences between the two measures of poverty’s intensity, severity, and depth. The unidimensional poverty measure shows that 36% of the households were poor, compared to 46% of multidimensionally poor households. Demographic, geographical, and household head factors also influence the poor status of households. The social and economic features of households mostly explain variations in the occurrence

and severity of multidimensional poverty. This investigation contributes to a better understanding of the underlying causes of multidimensional poverty and the required policy solutions for eradicating poverty in the rural areas of Tripura, India (Shah & Debnath, 2022).

Pakistan, a developing nation, has dealt with problems related to poverty since its independence; however, given the issue’s complexity, none of the policies to address it have been particularly effective. Naveed and Ali (2012) studied Pakistani poverty reduction strategies compared to China’s poverty reduction experiment. They concluded that no attempts had been made to target poor regions of the country for poverty reduction because policymakers pay little attention to how poverty is spatially distributed.

According to Padda and Hameed (2018), 44% of rural Pakistani households live in the lowest possible conditions, without access to clean drinking water, proper sanitation, decent housing, dirty energy sources, and financial means. According to the district-level data, Hyderabad, Thatta, and Sanger have the poorest rural populations. Therefore, additional funding from the federal, provincial, and local governments should be allotted for social welfare, education, sanitation, water supply, and agriculture development in rural areas of Pakistan to achieve sustainable development and poverty reduction.

However, there have been a few notable exceptions in this instance up to this point. For the first time (Jamal, 2005), the incidence

of poverty in Pakistan was measured using the Small Area Estimation (SAE) method on HIES 2004–2005 and Pakistan Social and Living Standards Measurement (PSLM) 2004–2005 data in each district of each Pakistani province. It failed to picture poverty in Pakistan's various provinces accurately. Instead, the results were limited to rural Baluchistan. The problem also seems to lie within the technique as SAE does not incorporate standard error when calculating probability to estimate district-level poverty. Cheema et al. (2008) only summarised poverty incidence in Punjab province by Multiple Indicators Cluster Survey (2003–2004).

Said et al. (2011) employed PSLM 2008–2009 to disaggregate poverty at the district level using Asset Index and Basic Need Index methods. In contrast, Multidimensional Poverty (MDP) has been calculated through various dimensions using the Alkire and Foster (2010) approach at the district level without explicitly mentioning the dimensions used. Kana et al. (2011) used 1998–1999 and 2007–2008 data to study multidimensional poverty within Pakistan. The results show that multidimensional poverty decreased from 43.35 percentage points to 38.71 percentage points throughout this period. The decrease in the pace of poverty was noticeable in rural regions. However, multidimensional poverty only increased in the case of urban areas of Sindh.

The analysis of the household data revealed that the incidence of multidimensional poverty was a common occurrence in the homes. The results

also indicated that the Multidimensional Poverty Index (MPI) in the study area was influenced by employment, sanitation type, fuel used for heating and cooking, and years of education. The findings also indicated that the household head's gender, years of education, membership in associations and cooperatives, availability of grants, and income affect the incidence of multidimensional poverty (Braide & Oluwatayo, 2022).

Ageing is globally viewed negatively. The perception is dominated by issues including skyrocketing expenses, the need for an adequate health care system, labour shortages, and the fragility of pension systems dominating the public view. Population ageing may result in unfavourable socioeconomic consequences for any developed or developing country. Bloom et al. (2010) stated that ageing causes a society's labour supply and individual savings rates to decline, slowing economic growth. It is particularly unsettling in poor countries when people may live to elderly age before becoming wealthy.

A higher dependency ratio would result in declining living standards and less care for the elderly, adding demographic stress to the ageing population (Deaton & Paxson, 1994). Various contributing elements typically define the relationship between ageing and inequality. The composition and magnitude of the population play a vital role in establishing a link between these two. Most empirical studies point to a positive connection between demographic ageing and income inequality (Faik, 2012;

Guerin, 2013; Peichl et al., 2012). Like ageing, an increase in children under 15 puts more strain on the household's primary breadwinner and raises the overall poverty. Due to the disproportionately high costs associated with children's education, health care, and nourishment, this places an even larger strain on the home economy than ageing does.

When human capital cannot maintain family income, the household dependency ratio—the proportion of young or elderly family members—is considered a primary determinant of poverty. As the elderly face a significant risk of poverty and make up a growing portion of the population, economic inequality in the nation is particularly sensitive to population ageing. A thorough analysis of poverty is required to develop effective programs to reduce poverty. This analysis should clearly define the target populations and support effective policies to address poverty.

Therefore, it is predicted that studying poverty at such a deep level will increase understanding of how poverty is distributed across different provinces and how policies should be focused geographically to provide better results. This study also identifies the falling provinces and requires policymakers' immediate attention. Such a study will also demonstrate the effectiveness of programs in reducing poverty.

## METHODOLOGY

Most traditional studies have used monetary indications such as consumption, expenditure, and income as a proxy for

well-being. Sen (1987), on the other hand, looked beyond and defined well-being based on the functional ability of individuals in a society. An individual who is technically above the poverty line cannot do well if they lack basic functioning within a society due to the absence of physical wellness and education. Alkire and Foster's method averages multidimensional poverty in two steps: aggregation and identification. The first step consists of aggregating different indicators measured in different units.

It is achieved using matrix "y", which consists of a list of all the indicators. Here,  $y_j^i$  represents the j indicator of human welfare for household  $i^{th}$ , whereas  $y_c^i$  indicates that observation is taken up to "c" indicators from household  $i^{th}$ . Similarly, from "n" household observations are taken from indicators j to c (Equation 1).

$$y = [y_j^1 \cdots y_c^1 \cdots y_j^n \cdots y_c^n] \quad (1)$$

$$z = [z_j \cdots z_c] \quad (2)$$

Moreover, based on the poverty line for each selected indicator specified as  $z_j$ , a censored matrix is attained (Equation 2), which is measured by substituting Equation 1 in place of each household lagging in that specific indicator while the rest are substituted by 0. Such a matrix is denoted by " $g^0$ " of ones and zeros, as shown in Equation 3:

$$g^0 = [1 \ 1 \ 0 \ 0 \ 0 \ 1 \ 1 \ 0 \ 1] \quad (3)$$

Another row-wise additive operation on vector "c" is performed to acquire the number of indications a household lacks.

Use a dual cut-off point moving forward that assigns a value to “k,” which is lower than the total number of indicators. Each household below this value of “k” will be further screened. Only the household whose value is non-zero is retained. “c” is now labelled as “c(k)” and is further divided by the total number of indicators before being averaged among each household to estimate average deprivation “A” which is further multiplied by “H,” headcount ratio, to calculate adjusted headcount “M(z,y).”

1. Headcount (H) shows the percentage of poor persons.
2. Average deprivation (A) displays the degree of deprivation experienced by people generally or within a particular group.
3. The Multidimensional Index (MI), created by multiplying  $HD \times A$ , determines the population's poverty level. The population is thought to be poorer the higher the MI. It considers the percentage of the population regarded as being poor and the severity of their poverty.

### Data and Variable Description

The study estimates the poverty in Pakistan at the provincial level with rural and urban segments by taking the data for 2010–2011, 2014–2015, and 2018–2019 collected from PSLM. PSLM is a survey conducted by the Ministry of Planning Development & Special Initiatives, and this study draws data from those surveys to derive its results. Although the four provinces differ in their rural-to-urban distribution, they are the same or barely differing for this study. The main dimensions used in this study for estimating

multidimensional poverty are standards of living, health, education, and reliance. The sub-dimensions are classified into twelve heads (Table 1).

The standard of living is categorised as residential status, energy source, toilet facility, cooking fuel, and assets. Dependency among family members affects the standard of living; therefore, dependency on a family member, such as old age (more than 65 years) and minors (less than 15 years), can also be considered a sub-dimension of the standard of livelihood. However, we will consider it the primary dimension for estimating multidimensional poverty here. The capacity of the family to read and write, as well as the number of school years, fall under the dimension of education. The dimension of health is further separated into water sources and basic health units.

### Identification Stage

The cut-off approach is based on the threshold deprivation of the household, which determines whether they are poor (Table 1). The household is poor if they fall in the value of ‘0’; otherwise non-poor. If a household's score is equal to or higher than the value of the notation “kit,” which serves as the cut-off for deprivation, it is regarded as poor or deprived in that dimension. According to three main dimensions, the ratio of ‘kit’ for deprivation is fixed at 33%. Each of the 12 sub-dimensions has a specific weight, the sum of which is one. The weights of sub-dimensions are mentioned in Table 2.

Table 1

*Description of multi-dimension poverty*

Dimension	Indicators	Indicator Cut-Offs Point and Nature
Standard of Living	Residential status	own house, personal residence (without rent), subsidised rent equal to 1, else zero
	The energy source for electricity	electricity, gas, kerosene oil equal to 1, deprived 0
	Type of toilet facility	flush (linked to septic tank) flush (linked to sewerage) flush (connected to the open drain) equal to 1, deprived zero.
	cooking fuel	kerosene oil, gas, electricity, coal/wood, cow dung equal to 1, deprived 0
	Assets	TV, AC, refrigerator, sewing machine, washing machine, motorcycle, car, agriculture land equal to 1, deprived 0
Health	Water source	tap, hand pump, well, water motor, tanker equal to 1, deprived 0
	Basic health unit	visit health unit once, often, always equal to 1, not visit 0
Education	read and write	read, write equal to 1, else 0
	years of schooling	greater than six years of schooling equal to 1, else 0
Dependency	Age>65 years	age of HH member > 65 equal to 1, else 0
	Age<15 years	age of child < 15 equal to 1, else 0

Table 2

*Weights and indicators of multi-dimension poverty*

Dimensions	Indicators	Weights	Indicators Weights
Standard of Living	Residential status	0.33	$(0.33) * (1/8) = 0.042$
	The energy source for electricity		$(0.33) * (1/8) = 0.042$
	Toilet facility		$(0.33) * (1/8) = 0.042$
	cooking fuel		$(0.33) * (1/8) = 0.042$
	Assets		$(0.33) * (1/8) = 0.042$
	Residential status		$(0.33) * (1/8) = 0.042$
	Age>65		$(0.33) * (1/8) = 0.042$
	Age<15		$(0.33) * (1/8) = 0.042$

Table 2 (Continue)

Dimensions	Indicators	Weights	Indicators Weights
Health	Water source	0.33	$(0.33) \times (1/2) = 0.167$
	Basic Health units		$(0.33) \times (1/2) = 0.167$
Education	Read / Write	0.33	$(0.33) \times (1/2) = 0.167$
	Years of schooling		$(0.33) \times (1/2) = 0.167$
Total		1	1

## RESULTS AND DISCUSSION

### Results

Table 3 shows the percentage of the underprivileged population that lives in poverty for each indicator of standard of living, health, and education using the Alkire and Foster method. Only 70% of the population has access to power, and it has been reported that individuals are most frequently without it for lighting purposes. It may be attributed to a constant electricity deficit. However, the data indicate that from 2010–2011 and 2018–2019, there was only a 3% improvement in electricity deprivation. Homeownership is the second most significant factor in deprivation, exhibiting two trends: a 5% increase in deprivation from 2010–2011 and a 6% recovery from 2014–2015 and 2018–2019. Homelessness has decreased by 1% overall. Poverty related to access to clean water increased from 86% to 94% from 2010–2011 and 2018–2019, but deprivation worsened after 2015–2016. The cost of construction has increased many times in the last two decades due to the depreciation of the exchange rate. Improved restrooms are also not accessible to many people, and statistics show that poverty in this area is rising from 58% to 77%. Visits

to health facilities and education levels, such as completion of grade ten or matriculation, are between 20 and 30 per cent. However, literacy rates in reading and writing deprived the population of 59% in 2018–2019, 4% higher than in 2010–2011.

Dependency on households, whether for the elderly or young, contributes to poverty. However, the burden of older people is lower than that of young people because spending on children's education, health, and nutrition is comparatively high. Since young people comprise the most population, the home has been deprived of approximately 80% of its inhabitants. The household deprivation rate for having children under 15 remains within the 80% range, indicating that the composition of youth in 2010–2011, 2014–2015, and 2018–2019 is stable. Children deprive the family in the same way as not having a home, electricity, or running water does.

The respondent in each data set of HIES or different years is not the same. The chi-square test is used to determine the mean value of each HIES data set is the same or not. The probability values are significant, showing that poverty varies across groups (data set). Therefore, the study concludes

Table 3

*Deprived percentage*

	2010–2011	2015–2016	2018–2019
Ownership	90.5%	95.5%	89.6%
Roof type	59.3%	58.7%	73.4%
Assets	2.8%	2.1%	2.5%
Toilet	58.0%	56.7%	77.6%
Lighting	98.4%	95.4%	95.9%
Cooking	37.2%	81.8%	45.1%
Years of Schooling	28.3%	50.3%	27.2%
Literacy	55.3%	49.7%	59.6%
Visit to Health Units	10.2%	13.4%	22.8%
Water	86.8%	85.1%	94.7%
Age >65	20.6%	19.0%	21.1%
Age <15	83.0%	85.0%	82.4%

*Note.* Deprived: Percentage of individuals whose indicator values are below the threshold

that poverty is cyclic and increases over time. In Pakistan, household size is proportional to income when household members are considered human capital. On the other side, as household size increases, dependency also increases.

Poverty estimates for headcount, adjusted headcount, and average deprivation (poverty) from Alkire and Foster method, along with their significance, are presented in Table 4. The coefficient indicates an increase in poverty for all three metrics at the national level from 2010–2011 to

2018–2019. A breakdown of the provincial-level poverty estimate is presented in Table 5. The highest population concentrations are in Punjab, followed by Sindh, KPK, and Baluchistan. The share of the population of Punjab's population share increased from 42 to 49%, indicating a population growth rate of 7%. While Sindh's population fell by 2% in 2014–2015 and increased by 3% in 2018–2019, Baluchistan experienced a negative population rate between 2010–2011 and 2018–2019, resulting in an 8% population loss.

Table 4

*Poverty results*

	2010–2011	2015–2016	2018–2019
H (Headcount)	0.828*** (0.003)	0.873*** (0.001)	0.943*** (0.002)
M (Adjusted headcount)	0.449*** (0.002)	0.509*** (0.001)	0.539*** (0.001)
A (Average deprivation)	0.543*** (0.001)	0.583*** (0.001)	0.572*** (0.001)

*Note.* Standard error is in braces

The range for poverty estimates is 0 to 1, with 0 denoting poverty and 1 denoting non-poverty. Estimates of multidimensional poverty are substantially lower than headcount ratios, indicating a wider scope of poverty than what the Uni-dimensional approach has already discovered (headcount). Baluchistan has the highest percentage of residents living below the poverty line, followed by KPK and Sindh. Regarding several wellness metrics, Baluchistan is far behind and the lowest. Although KPK is in better condition than Baluchistan, it still lags in the fundamental human standard of living. At the same time, Punjab is depicted as the least impoverished province in Pakistan (Table 5).

According to estimates of poverty, Punjab's well-being has increased as poverty has decreased by 6% for both the headcount and MDP, although this statistic only refers to the years 2010–2011 to 2014–2015; from 2014–2015 to 2018–2019, poverty has remained same. Following 2014–2015, poverty in Sindh decreased by 6% for MDP and HD. Welfare in the KPK significantly improved, with poverty declining by 19% for the CDM and 23% for the Workforce. Baluchistan's poverty decreases by 10% when employing a headcount. However, the MDP method shows a 3% increase in well-being (Table 5).

Table 5  
*Poverty estimates*

	2010–2011			2014–2015			2018–2019		
Provinces	H	M	PS	H	M	PS	H	M	PS
Punjab	0.894	0.486	0.436	0.950	0.566	0.465	0.957	0.547	0.492
Sindh	0.841	0.462	0.251	0.854	0.491	0.238	0.914	0.520	0.260
KPK	0.762	0.407	0.181	0.801	0.457	0.166	0.992	0.591	0.187
Baluchistan	0.690	0.368	0.143	0.727	0.405	0.130	0.798	0.397	0.061
Total	0.828	0.449	1.000	0.873	0.509	1.00	0.943	0.539	1.00

Note. H = Headcount, M = Multidimensional poverty index, Ps = Population share

Table 6 (a–c) presents the multidimensional poverty for each dimension used in this study for the dataset 2010–2011, 2014–2015, and 2018–2019. Less than 10% of poverty is caused by home ownership, roof security, access to better and safer restrooms, light availability, and children's presence. The percentages that education level and literacy rate contribute

are 10% and 20%, respectively. However, according to the statistics released for 2010–2011, about 30% of impoverished people lack access to clean water (Table 6a). The data set from 2014–2015 demonstrates that after five years, welfare improves as the share of each dimension falls, while the deprivation for each dimension rises in the 2018–2019 dataset.

Table 6a

*Adjusted multi dimension headcount ( $Mo = H^*A$ ) 2010–2011*

	Punjab	Sindh	KPK	Baluchistan	Total
Ownership	0.069	0.068	0.069	0.069	0.069
Roof type	0.058	0.053	0.053	0.032	0.053
Assets	0.004	0.003	0.001	0.0001	0.003
Toilet	0.053	0.043	0.057	0.051	0.051
Lighting	0.076	0.075	0.078	0.078	0.076
Cooking	0.034	0.037	0.031	0.031	0.034
Years of schooling	0.095	0.118	0.109	0.109	0.105
Literacy	0.202	0.213	0.194	0.182	0.201
Visit to health units	0.027	0.015	0.037	0.118	0.036
Water	0.299	0.297	0.283	0.248	0.290
Age >65 years	0.020	0.015	0.020	0.009	0.017
Age <15 years	0.062	0.063	0.068	0.073	0.065
Total	1.000	1.000	1.000	1.000	1.000

Table 6b

*Adjusted multi dimension headcount ( $Mo = H^*A$ ) 2014–2015*

	Punjab	Sindh	KPK	Baluchistan	Total
Ownership	0.066	0.069	0.069	0.073	0.068
Roof type	0.056	0.038	0.043	0.021	0.047
Assets	0.002	0.002	0.001	0.001	0.002
Toilet	0.051	0.035	0.056	0.018	0.045
Lighting	0.069	0.069	0.071	0.072	0.070
Cooking	0.050	0.066	0.070	0.072	0.059
Years of schooling	0.160	0.174	0.155	0.180	0.165
Literacy	0.157	0.157	0.152	0.184	0.163
Visit to health units	0.037	0.029	0.055	0.090	0.043
Water	0.277	0.269	0.247	0.211	0.264
Age >65 years	0.016	0.012	0.015	0.010	0.014
Age <15 years	0.058	0.063	0.066	0.069	0.062
Total	1.000	1.000	1.000	1.000	1.000

Table 6c

*Adjusted multi dimension headcount ( $Mo = H^*A$ ) 2018–2019*

	Punjab	Sindh	KPK	Baluchistan	Total
Ownership	0.066	0.068	0.056	0.079	0.065
Roof type	0.057	0.051	0.064	0.035	0.056
Assets	0.017	0.022	0.016	0.028	0.019
Toilet	0.063	0.048	0.068	0.041	0.059
Lighting	0.072	0.067	0.070	0.080	0.071
Cooking	0.033	0.023	0.054	0.028	0.035
Years of Schooling	0.076	0.100	0.083	0.092	0.084
Literacy	0.185	0.283	0.177	0.179	0.183
Visit Health Units	0.078	0.078	0.053	0.021	0.070
Water	0.278	0.287	0.279	0.318	0.282
Age >65 years	0.016	0.013	0.018	0.022	0.016
Age <15 years	0.058	0.061	0.062	0.078	0.061
Total	1.000	1.000	1.000	1.000	1.000

Changes in several aspects will have a varied impact on poverty in each province, as shown in Table 6 (a–c). All these various dimensions are mentioned to comprehend how changes in the dependency dimension affect poverty. When it comes to the first dimension, such as ownership, an increase in home ownership of just 1% would result in a 10% reduction in multidimensional poverty in Baluchistan from 2010–2011 to 2018–2019, while no such improvement could be seen in Punjab or Sindh. It has been observed that between 2014–2015 to 2018–2019, housing poverty in KPK increased by 13%. Implementing a national strategy for the fight against terrorism is one reason for the loss of homes, resulting in many households leaving their homes in search of safety, which increased poverty because fewer people had homes.

Improved brick roof construction will reduce poverty by 19% in KPK and 13% in Baluchistan, remaining the same for Punjab and Sindh. Increasing assets will significantly reduce poverty in all four provinces, but in Baluchistan, it does so by a factor of 27, while it does so by 15 in KPK, 20 in Sindh, and 15 in Punjab. The relationship between poverty and assets demonstrates that it lessens household deprivation by acquiring or possessing durable goods. People who can use their assets to generate more income and raise their living levels are less likely to live in poverty due to having more assets.

The data indicate that for the periods 2010–2011 to 2018–2019, the percentage of poverty was reduced for restrooms facility, electricity, schooling years, literacy, and visits to the health centres. It may be because

safe, drinkable water protects people from multiple waterborne diseases and keeps people well. However, access to secure drinking water has a considerably greater influence than one would think on reducing multidimensional poverty. As a result, extra expenses that would have been incurred are avoided. Hence, a 1% increment in this index will result in the highest reduction in poverty for Baluchistan by 20%. Data indicates that household poverty becomes severe for the access and availability of improved fuel for cooking purposes. Punjab has an increase in poverty of 17%, Sindh by 43%, KPK by 16%, and Baluchistan by 46%. It demonstrates that people utilise firewood and dung cake for cooking since gas and kerosene are scarce in Sindh and Baluchistan.

As the population of the elderly declines in Punjab, Sindh, and KPK, the indicator of old age dependency demonstrates how it lowers poverty in these regions. However, Baluchistan's elderly population is growing, which has resulted in a 1% increase in poverty from 2010–2011 to 2014–2015 and a 12% increase from 2014–2015 and 2018–2019. Every province has seen an increase in children's contribution to poverty, with KPK exhibiting the highest rate at 6%, followed by Punjab at 4% and Sindh at 2%. In Baluchistan, poverty, as measured by child reliance, declined by 9%. In Baluchistan, it has been noted that the population of the elderly is rising while that of children is falling.

## DISCUSSION

Understanding poverty must be policymakers' first step to combat poverty in a nation. Policymakers used to acknowledge poverty through its economic indicators simply, but as time passed, poverty became more widely accepted and complex worldwide. Studies like this encouraged the use of non-income indices of poverty, such as health, housing, and literacy, to measure the welfare of society. How poverty is defined is crucial to the effectiveness of anti-poverty policies and programs.

Wang et al. (2016) conducted an empirical study to examine how the multidimensional poverty rate fluctuates with household income in China using the 2011 Health and Nutrition Survey (CHNS) data. Analysis reveals a 31% correlation between multidimensional and income poverty. In other words, 69% of households experiencing numerous deprivations are not categorised as low income. Although its influence is minimal, an increase in annual household income can dramatically lower the incidence of multidimensional poverty. The current study indicates a strong need for additional empirical research on multidimensional poverty to understand it better and develop strategies to combat it. The uni-dimensional estimates showed that Baluchistan has the most impoverished people while Punjab has the fewest; however, when multidimensional poverty estimates were used, the number of poor people grew even more. It further demonstrated that poverty is a phenomenon that affects all four provinces, with Baluchistan having

the highest rate, followed by KPK, Sindh, and Punjab. Establishing anti-poverty strategies per region to achieve the main goal makes sense since this will be more effective than implementing a uniform policy across the country. The best course of action for policymakers to adopt is to target the challenges of each province with policies designed particularly to target those concerns.

Through various methods, such as family size, household features are key in reducing poverty and enhancing public support. In the cases of Punjab, Sindh, and Baluchistan, it is estimated that the age of the household head is favourable and noteworthy. Since education and employment prospects are positively correlated, a higher level of education raises living standards. By raising consumer expenditures, more years of education raise living standards and lower poverty. The literature also supports the education and consumption hypothesis (Gounder & Xing, 2012; Gulyani et al., 2014).

When it comes to children under the age of 15 and individuals over 65, the size of the family negatively impacts the home's welfare. A larger dependency has a regressive impact on saving in the long run, although it has a progressive relationship to consumption in the short run. The dependency raises the burden on wage earners and reduces consumption expenditure. According to the current study, having more dependent children reduces consumption dramatically and has a negative impact on poverty. The results are

consistent with those (Libois & Somville, 2018)

Household well-being and poverty reduction in rural areas are significantly impacted by the residential characteristics of the home, such as ownership status, roof construction type, possession of durable goods, restrooms, electricity, and cooking facility. However, outcomes differ depending on the province. Like the cooking source is substantial and beneficial in Punjab alone, roof type is significant in three provinces except for Baluchistan. Given the trade-off between current consumption and the construction of household facilities, (Yang, 2009) found that households forego non-housing expenditure to construct housing facilities. Given that rich and poor households own their homes equally, the land size—one marla (30 sq M) or ten marlas—does not significantly reduce poverty. However, the characteristics of the home, such as the number of rooms per person, significantly impact household well-being.

The prevalence of poverty and the proportion of each area's population were noted. According to estimates of unidimensional poverty, this region is more prosperous than its rural equivalent because urban regions have a smaller population. Nevertheless, once the multidimensional poverty method was used, the number of poor showed a significant increase. Prior to now, officials have mostly concentrated on enacting laws to combat poverty for the urban population when the focus should have been on rural areas to address more

pressing challenges. It must be thoroughly studied in the future to comprehend how crucial it is to complete the task successfully.

According to the current study, poverty and dependency ratio are positively correlated, meaning that as the proportion of children or old people rises, so does poverty. The economy will suffer more if thoughtful policies are not implemented, particularly in Pakistan, as Ali and Kiani (2003) argue:

In the present scenario, the elderly do not form a large population segment but are expected to increase in the coming years. The absence of well-established social protection coverage has increased the vulnerability of the elderly. Being socially and economically dependent, they bear the brunt of rising poverty levels in the country (p.43).

Even though the total dependency ratio (0–14 and 65+ per 15–64) decreased from 71.2% in 2011 to 65% in 2019, the pattern would not continue, leaving us with more dependent people than before. Due to Pakistan's inadequate social security systems and lack of defined policies that would have benefited this population, they are much more at risk for economic instability and poverty, with few ways to get out. Additionally, the life expectancy ratio has significantly improved over the years both internationally and in Pakistan, which is bad news for a nation's economy and efforts to fight poverty. It is only accurate if the senior population over 65 continues to depend despite the rise in life expectancy.

If nothing is done to combat it, it will climb from 67.33 to 77.35 by the year 2050, leading to a further rise in poverty.

Several of them were carefully examined to ascertain how responsive different poverty measures were. It was noticed that among all the other indices, the contribution of literacy and access to safe drinking water appeared to be the most significant. More study is required, particularly on how poverty relates to these two variables, because it can be very useful for formulating future policies.

## CONCLUSION

The results reveal that the unidimensional technique understates poverty in all of Pakistan's provinces when compared to multidimensional poverty estimates. Baluchistan emerges as the most distressed province based on the used indicators. The study emphasizes that social performance evaluations provide a more accurate assessment of poverty, contrasting with standard measurements that underestimate it. Moreover, poverty is unevenly distributed among provinces. Access to safe drinking water and literacy rate are identified as key factors in reducing poverty, along with other contributing factors.

The findings indicate rising contributions of indicators to poverty over time. In Baluchistan, reduced elderly population and increased child dependency helped alleviate poverty. All provinces experienced increased child dependency effects, particularly Baluchistan due to larger family sizes. The results demonstrate that dependency leads to poverty as working individuals

bear additional costs for consumption, healthcare, and education. Rising costs of children's education, food, and clothing further burden households and primary breadwinners.

It will be beneficial to develop efficient policies aimed at the elderly and children's segments of the economic system in order to reduce the strain on bread earners and alleviate the economy from the weight of poverty. The introduction of security support systems for these segments is the greatest approach for the government to address these problems since the working segment does not have to bear the entire burden alone. The government could step in and offer some kind of financial assistance to the old after they retire, such as pensions or jobs, and support the young by providing free healthcare or education, relieving more people. Implementing security support systems is the government's best approach, easing the burden on the working segment. Initiatives like pensions, jobs, free healthcare, and education can provide financial assistance and relief.

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## **Causal Modelling of Head Teachers' Leadership Behaviour and Administrative Effectiveness in Public Basic School: Validation of the Measurement Instrument**

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### **ABSTRACT**

Educational leadership behaviour and effectiveness instruments available in the literature are primarily outside the African continent. Educational leadership researchers do not consider the cultural context in adopting scale. In Sahara-Africa, where Nigeria is located, researchers have scientific and ethical questions on the validity of the instruments used for data collection. Experience showed that researchers in Sahara Africa tousel for an instrument to conduct their study in leadership and management, resulting in a self-designed instrument without adequate validation. The study, therefore, validated the measurement scale on head teachers' behaviour and administrative effectiveness in public primary schools. A non-experimental design was adopted for the scale development. Parallel analysis was used to establish factors of the scales and construct validity and reliability with the aid of R-programming and Partial Least Square Structural Equation Modelling. The results showed that leadership behaviour has three components (directive, supportive, and consultative) with 29 items. It was in line with the path-goal and situation theories underpinning this study. Also, the average variance extracted for all the components was

above the 0.50 cut-off, HTMT values were below 0.90, and composite reliabilities were above 0.70, respectively. Thus, the scales were valid and reliable to use by researchers interested in this area.

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## INTRODUCTION

In Nigeria, the administrative head of primary school is regarded as the headmaster or headmistress responsible for ensuring primary school policy and programme implementation to attain primary school goals (Arinze & Okonta, 2022; Okonkwo & Ifesiokwu, 2022; Olowonefa, 2022; Yusuf & Adigun, 2012). Thus, to achieve primary school purposes, the curriculum is formulated to suit such aspirations, which are to be executed by the school heads with the assistance of competent and committed teachers (Amanchukwu & Ololube, 2015; Darling-Hammonda et al., 2020; Nwalado 2021; Okonkwo & Ifesiokwu, 2022; Olatunji & Ajero, 2022). Part of the head teachers' duties is the execution of the school programmes, keeping statutory and non-statutory school records, ensuring the supply and maintenance of facilities and equipment, and creating conducive teaching and learning environment (Olujuwon & Perumal, 2017; Whang, 2021). The performance of primary school heads in actualising these primary educational policies is a product of their leadership behaviours, practice, and resource management (Alimi, 2013; Fan & Ekpe, 2006; Olujuwon & Perumal, 2017). Therefore, leadership effectiveness is when individuals in leadership positions can impact the group to perform their roles within a positive organisation atmosphere (Alli, 2018; Madanchian et al., 2017).

An effective leader is a product of his/her actions, measuring the followers' attitude or disposition toward their leader and leaders'

behaviour (Leithwood, 2010; Madanchian et al., 2017). Leadership effectiveness has been measured in terms of performance and ability to act innovatively, where subordinates' satisfaction and commitment increased staff performance and commitment, willingness to take additional responsibilities and improve decision-making and group performance (Alli, 2018; Kwiotkowska et al., 2022; Madanchian et al., 2017; Olofu et al., 2022; Rickley & Stackhouse, 2022). However, the effectiveness of school heads is measured through supervision of teaching and learning, decision-making, motivating educators and pupils, communication, monetary management, plant administration, human capital development, community relations, conflict management/resolution, human relation, disciplinary ability, and adherence to statutory rules.

## Study Underpinning Theories

Path-Goal Theory (PGT) and Situational/Contingency Theory by Fred Edward Fiedler (1964) and Robert House (1971) underpinned this study. The theories propose that subject to the employees and circumstances, leadership behaviours will enhance teachers' acceptance of the school head, level of satisfaction, and motivation to high performance. Built on situational elements, PGT proposes four factors: directive, supportive, participative, and task-oriented leader behaviours. In the same vein, the Situational/Contingency theory stipulates that the leadership effectiveness of any system depends upon the suit between character, mission, control, and experiences.

Based on these, Tannenbaum and Schmidt's (1973) situational approach believes that influential education leaders produce forces in the superintendent, situation, and subordinate. The other perspective is the Fielders contingency approach. School heads will achieve better authority over subordinates for effective performance with positive leader-teacher relationships, superior mission formation, and a strong position. Hence, the justification for validating the scale on head-teachers behaviour and administrative effectiveness in primary school.

Many schools' leadership practices and effectiveness scales developed are of foreign nations and continents outside Africa by educational leadership researchers without considering the cultural context. It causes scientific and ethical questions for researchers in Sahara-Africa, where Nigeria is located (Grobler & Flotman, 2020). Among these existing scales are the Leadership practices inventory (LPI) (Posner, 2016), Measuring school leaders' effectiveness (McCullough et al., 2016), Scale development and initial tests of the multidimensional complex adaptive leadership scale for school principals (Özen & Turan, 2017), Educational leadership styles scale (ELSS) (Kareem & Patrick, 2019), democratic school leadership characteristics instrument (Pažur, 2020) and understanding teacher leaders' behaviours inventory (Chen, 2020). In Africa, literature abounds on scales for measuring educational leadership practices and effectiveness. Van der et al. (2014) worked on the validity and reliability

of the caring school leadership questionnaire in South Africa. The study focused on school leaders' caring behaviour as perceived by teachers. Mahembe and Engelbrecht (2013) conducted a confirmatory factor analysis of a servant leadership measure in South African schools to improve team effectiveness, employee engagement, and institutional success. The servant leadership scale used the constructs of altruistic calling, emotional healing, persuasion, organisational stewardship, and wisdom.

### **Concept of School Heads' Leadership Behaviour**

The act of motivating individuals to work toward the attainment of institutional goals is commonly referred to as leadership (Abdullahi, 2021; Gyang, 2021). Every educational system requires leadership, which may be gained through training and development. Educational leaders must be able to convince or persuade school staff and students to collaborate to attain pedagogical best practices. Leadership is described as the process of influencing the behaviours of staff and students to attain instructional objectives (Mestry, 2021; Okorie, 2010; Ramay, 2010). Various leadership models have been produced in the literature, emphasising the importance of transformative, distributive, and instructional methods in leadership (Bush, 2020; Bush et al., 2021). "Leadership is constructing and sustaining a sense of vision, culture, and interpersonal relations" (Khan et al., 2017, p. 249). School heads must be developed to possess the necessary abilities to maintain and realise the core

educational goal. Collaboration and organisational learning have been connected to leadership models in educational settings (Danils et al., 2019; Hallinger, 2003). These models are “*distributed leadership*” (Harris, 2013; Harris & DeFlaminis, 2016; Naicker & Mestry, 2013; Spillane, 2006), “*shared leadership*” (Gronn, 2002; Harris, 2013), “*team leadership*” (Gupta et al., 2010; Zaccaro et al., 2001), and “*democratic leadership*” (Jones et al., 2016; Terzi & Derin, 2016). Various theories or models abound in school leadership, including Great Man, trait, contingency, style and behaviour, transactional, and transformational theories (Khan et al., 2017). To that purpose, this research focuses on the approach to leadership behaviour and its effectiveness.

An approach to enhance teachers’ morale is through the school heads’ leadership behaviours (SHLB) (Mbon, 2017). Rad and Yarmohammadi (2006) see leadership as beliefs, traits, and skills used in diverse circumstances towards individual and organisational objectives. The SHLB is conceptualised to initiate action and inspire and direct teachers towards fulfilling a set goal (Ramay, 2010). Leadership behaviour, thus, is whatsoever is done to bring about teachers’ happiness, satisfaction, dedication, and commitment in a manner that promotes their best in the school so that both pupils, parents and society will significantly benefit from their services (Rabbani et al., 2015; Somech, 2005). The SHLB was built on PGT proposed by Fiedler (1964) with four models (directive, supportive, participative, and task-oriented) (Kuhn, 2007). However,

based on the factors loaded, this study is limited to three elements (directive, supportive, and consultative).

Directive leadership offers the teachers a standard for action favouring a head’s perspective (Rabbani et al., 2015). The directive approach is recognised as project-oriented comportment and a great propensity to take over relationships, direct conversations, and personally coordinate job accomplishment (Bell et al., 2014; Cruz et al., 2009). School heads that provide teachers mandates emphasise less contribution than school managers that focus on staff members’ growth as the crucial component of leadership effectiveness (Bell et al., 2018; Fiedler, 2005; Sagie, 2007). Therefore, this leader makes teachers self-reliant and unbending, aiding less initiative (Euwema et al., 2007; Northouse, 2013). Directive leadership behaviour is appropriate when the task is complex or ambiguous, formal authority is strong, and the workgroup provides job satisfaction (Lussier & Achua, 2010; Malik, 2013).

Supportive school heads show concern for subordinates’ well-being and personal needs. Supportive leadership behaviour (SLB) involves being responsive and approachable as a leader and attending to subordinates’ well-being and human needs (Northouse, 2013). SLB is suitable when the task is simple, formal authority is weak, and the workgroup does not provide job satisfaction (Cansoy, 2019). Thus, the approach is the most suitable when the teachers have low willingness but a high capacity for the work. It is useful

when the staff can do the job but refuses to do it or lacks commitment (Golshani & Rahiminejad, 2018; Wu & Parker, 2014). The school heads need not worry about showing them what to do but instead should be concerned with finding out why the teachers are refusing and working to persuade them to cooperate. The key to supportive leadership is motivating and building confidence in people (Wu & Parker, 2014).

Thus, consultative leadership behaviour (CLB) is appropriate when teachers do not want autocratic leadership, have an internal locus of control, and the follower's ability is high; when the task is complex, authority is either weak or strong, and satisfaction from co-workers is either high or low (Lussier & Achua, 2010). School heads with the CLB approach obtain their opinions and thoughts about fellow teachers and integrate them with their goals (Northouse, 2013). CLB is the process of having a shared impact in decision-making by a school head and their teachers (Koopman & Wierdsma, 2008). It is a relatively equal participation level in an organisation's decision-making (Torres, 2000).

With consultative leadership, head teachers have essential tasks to provide teachers and non-teaching staff with the expertise of inherent inspiration, emotions of identity, and a sense of self-strength of character (Deci et al., 1989). Participation is sensitive if teachers have an attitude of rights in believing that the heads genuinely accept them as critical human assets in the school.

### **Concept of Schools' Head Administrative Effectiveness**

Head administrative effectiveness (HAE) is conceptualised as adequate supervision, human relation, and disciplinary ability in school heads. In school administration, effectiveness has received wide attention in organisational behaviour (Bell et al., 2018). Effectiveness was considered system-oriented; capacity to accomplish the expected result; purpose achievement, input-output ratio, and measurable quantity (Oyededeji, 2012). Therefore, administrative effectiveness is faced with problems in deciding what criteria should be used and what level of specificity would be appropriate for the various constituent groups (April 2018) despite the poor interconnected literature on this concept. Administrative effectiveness is not limited to school heads' performances but actual school effectiveness over time (April 2018; Bhasin, 2020). Administrative effectiveness is the ability of school administrators to maximise school inputs to produce optimum educational services. It concerns the organisation's output to the extent of its environment (Arikewuyo & Onanuga, 2005; Barinua & Ibe, 2022; Prasetyo et al., 2022). Therefore, school heads' administrative effectiveness is the ability to effectively use the available resources via effective supervision and disciplinary ability, human relation, vision, and policy to achieve the educational goals of primary school.

Based on the existing literature, six elements were discussed in gauging head teachers' administrative effectiveness:

Concentrate on curricula and instruction. It is the most frequently mentioned feature of good school leadership in the literature studied. It entails devoting time to the creation, oversight, and monitoring of educational programmes (Dös & Savas, 2015; Grissom et al., 2013; Kondakci & Sivri, 2012; Malone & Caddell, 2000; Parylo & Zepeda, 2014; Pashiardis, 1998; Supovitz et al., 2010). Communication and sustaining positive connections are also important (internal or external). As a result, the capacity of leaders to convey the vision, achieve standards, and establish school climate and culture (Dös & Savas, 2015; Grissom & Loeb, 2011; Leithwood & Jantzi, 2005; May et al., 2012) is critical to their administrative effectiveness. It allows teachers and other school stakeholders to participate in the school's administration (Daniels et al., 2019). The school environment influences people's behaviour within a system (Hoy & Miskel, 2013). In contrast, school culture is defined by the beliefs, norms, and values that bind the school and give it a sense of community (Daniels et al., 2019; Hoy & Miskel, 2013). In several research school leaders have been identified as key shapers of school culture (Dös & Savas, 2015; Supovitz et al., 2010). The organisational culture and climate are discussed, emphasising teacher mutual trust and the head-teacher relationship (Daniels et al., 2019; May et al., 2012; Supovitz et al., 2010).

In a similar vein, the capacity of school leaders to develop and maintain the school's vision and mission is a measure of its

administrative effectiveness. Administrative performance is enhanced by the ability of school leaders to project and maintain the school vision and mission (Daniels et al., 2019; Grissom et al., 2013; Sahenk, 2010; Supovitz et al., 2010). In addition, the capacity to provide frequent feedback, recognition, and awards for accomplishments is important. Administrative effectiveness will be enhanced by the ability of head teachers to provide feedback and recognise staff and learners' success through word of mouth or prizes (Daniels et al., 2019; Dös & Savas, 2015; Sahenk, 2010). Finally, the ability of head teachers to invest resources in staff development and retention is critical to their administrative effectiveness (Daniels et al., 2019; Hitt & Tucker, 2016; May et al., 2012). It entails head teachers motivating educators to devote time to ongoing professional development and enabling them to learn by fostering a welcoming learning environment (Awodiji et al., 2022; Daniels et al., 2019).

In Nigeria, research on head-teachers leadership behaviour and effectiveness (Akinola, 2013; Alimi, 2013; Apebende & Ushie, 2018; Mbon, 2017; Shamaki, 2015) without evidence of adequate psychometric properties. Few validated instruments exist for these construct variables based on researchers' observations, experiences, and literature. Experience showed that students and researchers scrambled for a tool to conduct their study, resulting in a self-designed instrument without adequate validation. This scientific process contributes to existing literature and provides

a validated scale for scholars to conduct an original and reliable study in Sub-Sahara Africa and Nigeria in particular. Thus, the researchers steered the research to advance a scale for researchers in behavioural and social sciences to assess head teachers' leadership behaviour and effectiveness in the basic level of education, to determine the fundamental feature of the scale, to validate the scale construct, internal consistency and to evaluate whether the empirical data is consistence with the hypothesised model.

## **METHODOLOGY**

### **Design Participants and Sample**

The study adopted a non-experimental design of scale development research. In this paper, the scale development research method was used to develop a valid and reliable measure of a construct to assess an attribute of interest (for example, leadership behaviour and administrative effectiveness). The participants for the study were systematically drawn from five educational districts in Ibadan, Oyo State, Nigeria. A total of 382 (75, 19.6% = men: 307, 80.4% = women) primary school teachers responded to the questionnaires. Of this number, 185 were from urban schools, 111 were semi-urban, and 86 were from rural schools. The researchers and research assistants administered the questionnaire to the participants in their schools.

### **Item Generation Procedure**

Literature was extensively reviewed to pinpoint relevant problems, terminology,

items and scales from the existing studies that might be adopted to assess components of head-teacher leadership behaviour and their effectiveness. Information deduced from the literature was used to structure the interview guide to understanding better issues surrounding the two construct variables (head-teacher leadership behaviour and administrative effectiveness). Focus groups and in-depth interviews were conducted with ten primary school teachers and five head teachers in the Ibadan metropolis of Oyo State, Nigeria to have first-hand information and opinions on the different components of head teacher leadership behaviour and administrative effectiveness baseline for potential scale items. In the literature and qualitative study, three components of leadership behaviour were evident, namely, directive leadership behaviour, supportive leadership behaviour, and consultative leadership behaviour. Three components were identified for administrative effectiveness: effective supervision and disciplinary ability, human relation, and vision and policy.

Thirty-six items related to concepts considered essential by a broad range of stakeholders in the qualitative stage and addressed the theoretical components of leadership behaviour were selected for inclusion in a draft questionnaire. Also, 43 items formed the scale of the administrative effectiveness instrument. The scale contains both positive and negative worded Items. Forty items of leadership behaviour were phrased as statements to which respondents were asked to indicate their level of

agreement, using a five-point Likert scale ('5=Very true', '4=True', '3=Somehow true', '2=Not true', '1=Neutral'). Again, the 33 items statements of administrative effectiveness used a five-point Likert scale ('5=Excellent', '4=Very Good', '3=Good', '2=Fair', '1=Poor'). In developing new items, the researchers generated statements/arguments that addressed the concept of the two construct variables and sought input from experts in educational management, measurement and evaluation and other researchers to assess the comprehensiveness of items in terms of ambiguity, clarity and wording. In responding to each item under the scale, participants showed their magnitude of support or dispute with the items on the Likert scale of five-continuum. There was a reverse of negatively worded items.

### **Ethical Consideration**

We sought approval from the University of Johannesburg research and ethics committee. More importantly, the researchers also sought permission from the Ministry of Education in Nigeria, through the school heads, to authorise and distribute the Five-Point Likert Scales questionnaire to the teachers. Also, teachers' consent was sought before the administration of questionnaires. The participants responded to the questionnaires on how they agreed or disagreed with each statement. Their responses were assessed and subjected to a statistical process. The University of Johannesburg granted ethical clearance with approval number SEM 1-2022-025.

### **Statistical Analysis**

Participants' demographic profiles were summarised descriptively. The exploratory factor analysis (EFA) was used for item reduction and determination of underlying factors of the scales implemented in R programming language for statistical computing software, version 4.1.1 (R Core Team, 2011). Also, the construct validity (that is, convergent and discriminant) of the instrument was established using Partial Least Square Structural Equation Modeling (PLS-SEM) implemented in SmartPLS version 3.3.3 software (Ringle et al., 2005). PLS-SEM estimates the parameters of a set of equations in a structural equation model by combining principal component analysis with regression-based path analysis (Hair et al., 2011). The PLS-SEM analyses recognise critical achievement elements and causes of benefit (Albers, 2010) for essential target elements like leadership behaviour and administrative effectiveness. In addition, PLS-SEM has gained extensive acceptance in social and behavioural sciences for generating and estimating multifaceted path models with latent variables and their associations. This paper adopted this technique to predict a specific set of hypothesised interactions that maximises the described divergence in the endogenous construct variable. Consequently, the measurement model, an ingredient of PLS-SEM, was established.

### **RESULTS**

Participants' responses to the scale items of leadership behaviour and administrative

effectiveness were subjected to parallel analysis implemented in psych and GPArotation packages of R programming language software to establish the number of elements underlying the scale. Humphreys and Montanelli (1975) described parallel analysis as an optional procedure that evaluates the eigenvalues of factors of the examined data along with a random data matrix of a similar range as the original. The outcome is described in Table 1.

A factor is retained if its eigenvalue is greater than the mean of the eigenvalues from its randomly generated counterpart (Horn, 1965). Based on this premise, Table 1 suggested five factors for the leadership behaviour scale. The extracted factor(s) provide evidence for evaluating the number of factors underlying the scale under study. Also, the pattern of factor structure is presented in Table 2.

As shown in Table 2, only three factors reasonably underlie the scale since two identified factors did not have substantial item loadings of at least three, so they were not viable to be part of evident factors. More so, examining item loadings for each component depicts that items from LB1 to LB11 measured consultative leadership behaviour, and items from LB16 to LB28 measured directive leadership behaviour. In contrast, items between LB29 to LB36 measured supportive leadership behaviour. Therefore, this made three factors interpretable for the leadership behaviour scale, with 32 items measuring different components. Also, the result of the parallel analysis of the administrative effectiveness scale is presented in Table 3.

Table 3 suggested six factors for the administrative effectiveness scale. The extracted factor(s) provide evidence for evaluating the number of factors underlying the scale under study. Also, the pattern of factor structure is presented in Table 4.

Table 4 shows that three factors are tenable for the scale. The remaining three factors did not have substantial item loadings of at least three, so they were not viable. In addition, item loadings under each factor remarked that items from AE1 to AE12 measured effective supervision and disciplinary ability, items from AE16 to AE28 measured human relations, and items from AE34 to AE43 measured vision and policy, respectively. Succinctly, three factors are interpretable for the administrative effectiveness scale, with 35 items measuring various components. The two scales' survival items from the parallel analysis were further analysed to establish construct validity (convergent and discriminant) and reliability. Thus, it demonstrated using PLS-SEM implemented in SmartPLS version 3.3.3 software.

### Measurement Model Assessment

The hierarchical component model hypothesised (See Figure 1) in this study consisted of three sub-constructs of leadership behaviour (directive, supportive and consultative) and three sub-constructs of administrative effectiveness (effective supervision and disciplinary ability, human relation and vision and policy). This hierarchical latent variable accounts for the measurement error of the

Table 1  
Several factors underlie the leadership behaviour construct

SN	Eigen Values of Observed Factors													
[1]	16.5	2.20	0.96	0.63	0.50	0.36	0.31	0.24	0.20	0.13	0.09	0.07	0.03	-0.01
[15]	-0.02	-0.03	-0.05	-0.11	-0.13	-0.15	-0.17	-0.20	-0.21	-0.22	-0.24	-0.27	-0.30	-0.31
[29]	-0.33	-0.36	-0.37	-0.39	-0.41	-0.43	-0.49	-0.51						
SN	Eigen Values of Simulated Factors													
[1]	0.68	0.56	0.51	0.46	0.42	0.37	0.34	0.30	0.26	0.23	0.21	0.18	0.14	0.12
[15]	0.08	0.06	0.03	0.00	-0.02	-0.05	-0.07	-0.10	-0.12	-0.15	-0.17	-0.20	-0.22	-0.24
[29]	-0.27	-0.30	-0.32	-0.35	-0.38	-0.40	-0.43	-0.48						

Table 2  
Pattern matrix for leadership behaviour scale

Statements on Leadership Behaviour: My head-teacher	Label	F1	F2	F3	F4	F5
Provides guidance, advice and instructions as necessary and monitors teachers' performance.	LB1		0.76			
Sets performance and rewards norms	LB2		0.68			
Gives directives when there is a serious issue or with drastic consequences if not successful	LB3		0.73			
Is approachable and friendly as a manager	LB4		0.80			
Is willing to collaborate with staff members continually	LB5		0.52			
Makes sure that everyone is accountable for their task	LB6		0.64			
Establishes warm interpersonal relationships with the staff members and students	LB7		0.56			

Table 2 (Continue)

Statements on Leadership Behaviour: My head-teacher	Label	F1	F2	F4	F3	F5
Considers the well-being of participants	LB8		0.76			
Keeps staff informed on relevant tasks, goals, and situations	LB9		0.87			
Asks staff for their opinions on decisions	LB10		0.75			
Considers suggestions from staff on school improvement	LB11		0.68			
Involves staff members in planning the school programmes	LB12			0.42		
Consults teachers on the issues affecting school activities	LB13			0.41		
Provides structure in situations that lack direction	LB14					0.41
Shows concern for teachers' well-being and personal needs	LB15					0.36
Treats staff and students fairly	LB16	0.50				
Encourages when teachers have a low willingness to work	LB17	0.35				
Motivates and builds confidence in teachers	LB18	0.47				
Gives room for listening, praising, and making teachers sense great when they show the required commitment to the teaching job	LB19	0.36				
Shows concern for their welfare and promotes staff cohesiveness	LB20	0.55				
Provides a comfortable environment and work climate for members of the staff and students	LB21	0.38				
Consults with teachers about decision-making	LB22	0.41				
Consults teachers to obtain their ideas and opinions and integrate their suggestions into decision-making	LB23	0.49				
Has an essential task of providing teachers with the experience of intrinsic motivation	LB24	0.87				
Considers ideas, differences, and opinions of fellow teachers	LB25	0.50				
welcomes and deliberates with the teachers before any decisions are made	LB26	0.87				

Table 2 (Continue)

Statements on Leadership Behaviour: My head-teacher	Label	F1	F2	F3	F4	F5
Involves staff in decision-making	LB27	0.54				
Solicits for teachers' ideas and consults them often	LB28	0.43				
Often dominates all school programmes	LB29				0.72	
Takes a highly directive role when teachers cannot do the job well	LB30				0.59	
Understands and shares staff aspirations and feelings	LB31				0.37	
Considers the opinion of others	LB32				0.34	
Asks all staff for their point of view	LB33				0.41	
Encourages creativity among staff members and students	LB34				0.33	
Accepts whatever plan the member of staff initiates.	LB35				0.50	
Gives teachers a free hand to decide and carry out their own decisions without his approval	LB36					0.69

Table 3

Several factors underlie the administrative effectiveness construct

SN	Eigen Values of factors									
[1]	21.74	2.05	0.82	0.77	0.58	0.47	0.38	0.32	0.29	0.22
[15]	0.04	0.04	-0.01	-0.02	-0.04	-0.06	-0.09	-0.12	-0.13	-0.16
[29]	-0.23	-0.25	-0.26	-0.28	-0.29	-0.3	-0.31	-0.35	-0.37	-0.38
[43]	-0.5									
SN	Eigen Values of Simulated factors									
[1]	0.76	0.65	0.59	0.54	0.49	0.45	0.41	0.37	0.33	0.3
[15]	0.15	0.13	0.1	0.08	0.05	0.03	0.01	-0.02	-0.04	-0.07
[29]	-0.18	-0.2	-0.22	-0.25	-0.27	-0.28	-0.3	-0.32	-0.35	-0.38
[43]	-0.51									

Table 4

*Pattern matrix for administrative effectiveness scale*

<b>Statements on Administrative Effectiveness: My head-teacher</b>	<b>Label</b>	<b>F1</b>	<b>F2</b>	<b>F3</b>	<b>F4</b>	<b>F5</b>	<b>F6</b>
Ensures that teachers are doing their jobs from time to time	AE1	0.76					
Shows concern to teachers towards good job performance and pupils' achievement	AE2	0.86					
Ensures that teachers' job commitment is highly improved	AE3	0.80					
Readily direct and assist the activities of staff and students	AE4	0.61					
Distributes materials equally among different units without prejudice or favouritism	AE5	0.35					
Have concerns and skills in unravelling an array of challenges	AE6	0.54					
Takes teachers' absence from work seriously	AE7	0.34					
Does not encourage examination malpractices	AE8	0.34					
Courageous and firm	AE9	0.64					
Is constantly reliable, honest, and steadfast by a high standard of "right" and "wrong"	AE10	0.57					
Has good presentation skills	AE11	0.71					
Collaborate with staff by means of leadership by example	AE12	0.68					
Very knowledgeable on contemporary issues concerning schools and students	AE13						0.35
Commitment to spending long hours	AE14					0.41	
Prioritise projects and make sure the essential functions are performed before the less essential ones	AE15					0.37	
Has excellent hearing skills	AE16			0.45			
Listen cautiously, without bias, empathise with others and fairly attempt to comprehend the presenter's viewpoint	AE17			0.48			
excellent communication skills	AE18			0.55			
Concern in seeking and utilising others' input in decision-making	AE19			0.43			
Knows how the school system work	AE20			0.49			
Enhances the cordial relationship with teachers	AE21			0.56			

Table 4 (*Continue*)

<b>Statements on Administrative Effectiveness: My head-teacher</b>	<b>Label</b>	<b>F1</b>	<b>F2</b>	<b>F3</b>	<b>F4</b>	<b>F5</b>	<b>F6</b>
Creates an atmosphere that encourages good teaching and learning process	AE22			0.62			
Has good interpersonal skills	AE23			0.39			
Provides a conducive setting in which staff and students are cheerful and willing to work	AE24			0.46			
Helps staff and students flourish and prosper in their aspirations	AE25			0.48			
Evaluates teachers while teaching pupils	AE26			0.35			
Does not allow indecent dressing	AE27			0.43			
Let go, as well as aid others in resolving crises.	AE28			0.39			
ready for innovative means of accomplishing things	AE29						
Ensures discipline among teachers and pupils	AE30				0.451		
Does not allow private business in the school environment	AE31				0.552		
Is highly approachable to teachers	AE32						
Willing to make tough and unpopular but necessary decisions and stick to them	AE33						
Persevering over the best reasonable attempts to achieve objectives efficiently and effectively	AE34		0.51				
Cares about issues concerning school programmes	AE35		0.50				
Uses new philosophies to do things differently	AE36		0.72				
Has knowledge of the "hows" and "whys" of the instructional curriculum	AE37		0.60				
Behaves in such a way that makes every teacher loves the teaching profession	AE38		0.54				
Treats people equally	AE39		0.66				
Share beliefs, targets and intentions for the prospect of the school with staff and learners	AE40		0.68				
To make long-range planning to meet school goals and objectives	AE41		0.62				
Possesses the capability to take on the current demands of the school	AE42		0.69				
Has the skill to prepare reasonable financial budgets and spend wisely	AE43		0.61				

indicators of a typical formative construct: the arrows are operationalised as reflective constructs to model their measurement error (Edwards, 2001) explicitly. Consequently, the reflective-formative type of hierarchical latent variable model was used. The constructs reflect (multidimensional) the criticism by Becker et al. (2012) as the six factors are distinct and not interchangeable. In PLS-SEM, two approaches are generally suggested in the literature to estimate the parameters in a hierarchical latent variable model: the repeated indicator approach and the two-stage approach (Ringle et al., 2012; Wetzels et al., 2009). Standard assessment always depends on composites; irrespective of the measurement model requirement, the technique can process meditatively and formatively specified weight models without classification issues (Hair et al., 2011). Thus, the continual value was used to assess the model's factors.

The loading of each value on its concomitant latent variable must be estimated and compared with the cut-off to assess the model's consistency. Hair et al. (2011) suggested that outer loadings should be greater than 0.60 for indicator reliability to be sufficient. A loading below 0.60 indicates that an item should be considered for removal. Such will reduce the composite reliability values and average variance extracted from the constructs if not expunged from the rest of the items (Chin, 2010). Also, higher values indicate higher reliability levels for the composite reliability criterion. According to Hair et al. (2022), values between 0.60 and 0.70

are acceptable in exploratory research, whereas results between 0.70 and 0.95 represent satisfactory reliability. Although, incredibly high estimates (say, higher than 0.95) are challenging and indicate that the items are virtually identical and redundant. The explanation could be a similar item in an assessment or unwanted response forms such as straight-lining (Diamantopoulos et al., 2012). Cronbach's alpha is another standard of internal consistency that accepts identical thresholds but produces lower rates than the composite trustworthiness. The results of repeated indicator model estimation are presented in Figure 2.

Figure 2 remarks that most indicator loadings on their concomitant latent variables exceeded the 0.60 benchmarks. However, indicators such as CLB1, CLB2, CLB8, ESDA5, HR6, HR13, and VP1, respectively loaded (outer loadings) below 0.60, were deleted based on the low estimates of composite reliability average variance extracted. More so, the composite reliability coefficient was adopted for establishing construct consistency and should be greater than 0.70 to be appropriate (Ayanwale et al., 2023; Hair et al., 2011). In Table 5, composite reliability for all the constructs in the measurement model was higher than 0.70. Therefore, show that the measurement model possesses standard dependability. To establish the convergent validity of the measurement model, the average variance extracted from the constructs must be above 0.50 for their convergent validity to be considered suitable (Chin, 2010; Hair et al., 2011). Table 5 marks that the average

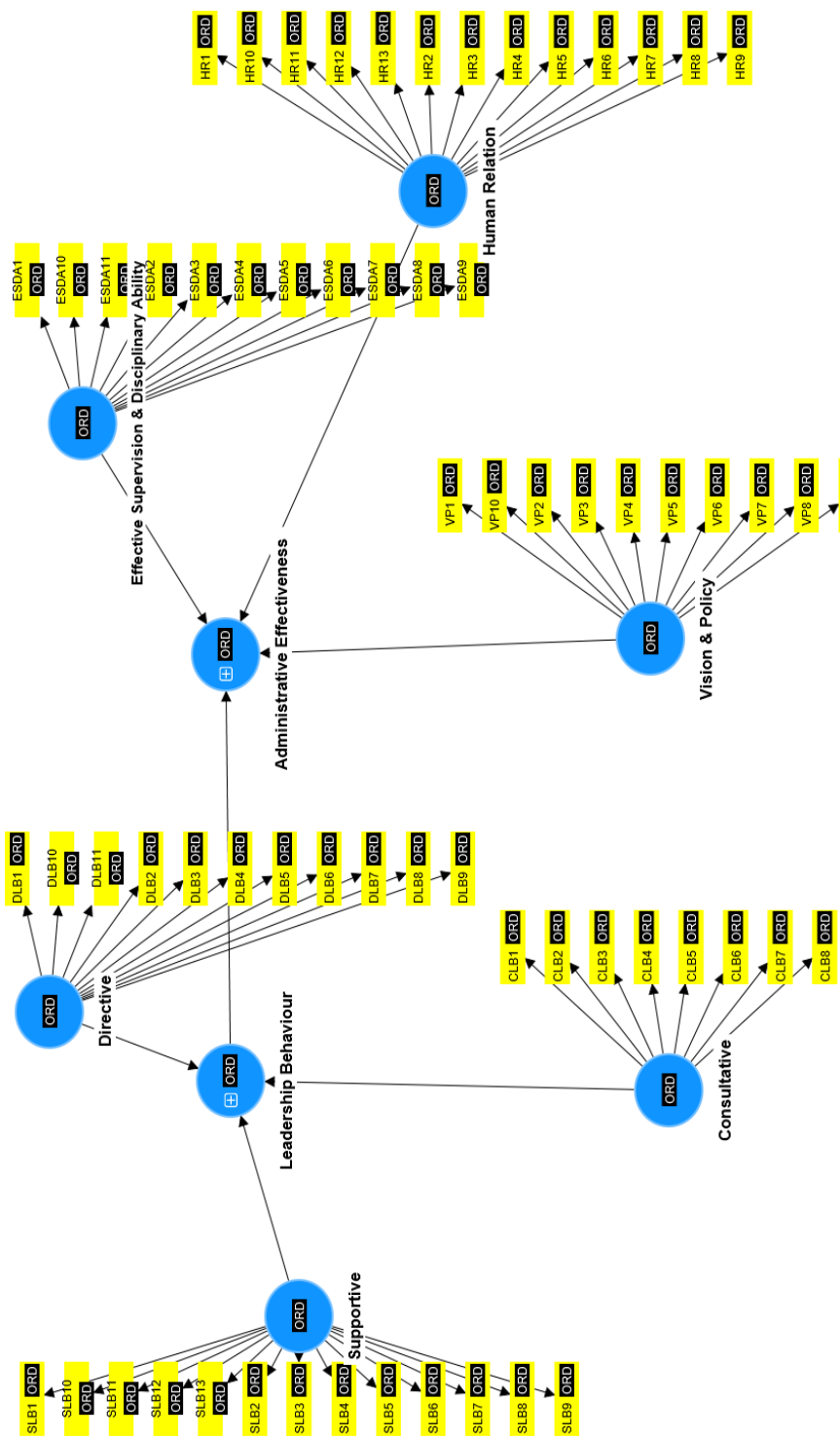


Figure 1. Hierarchical latent variables of leadership behaviour and administrative effectiveness

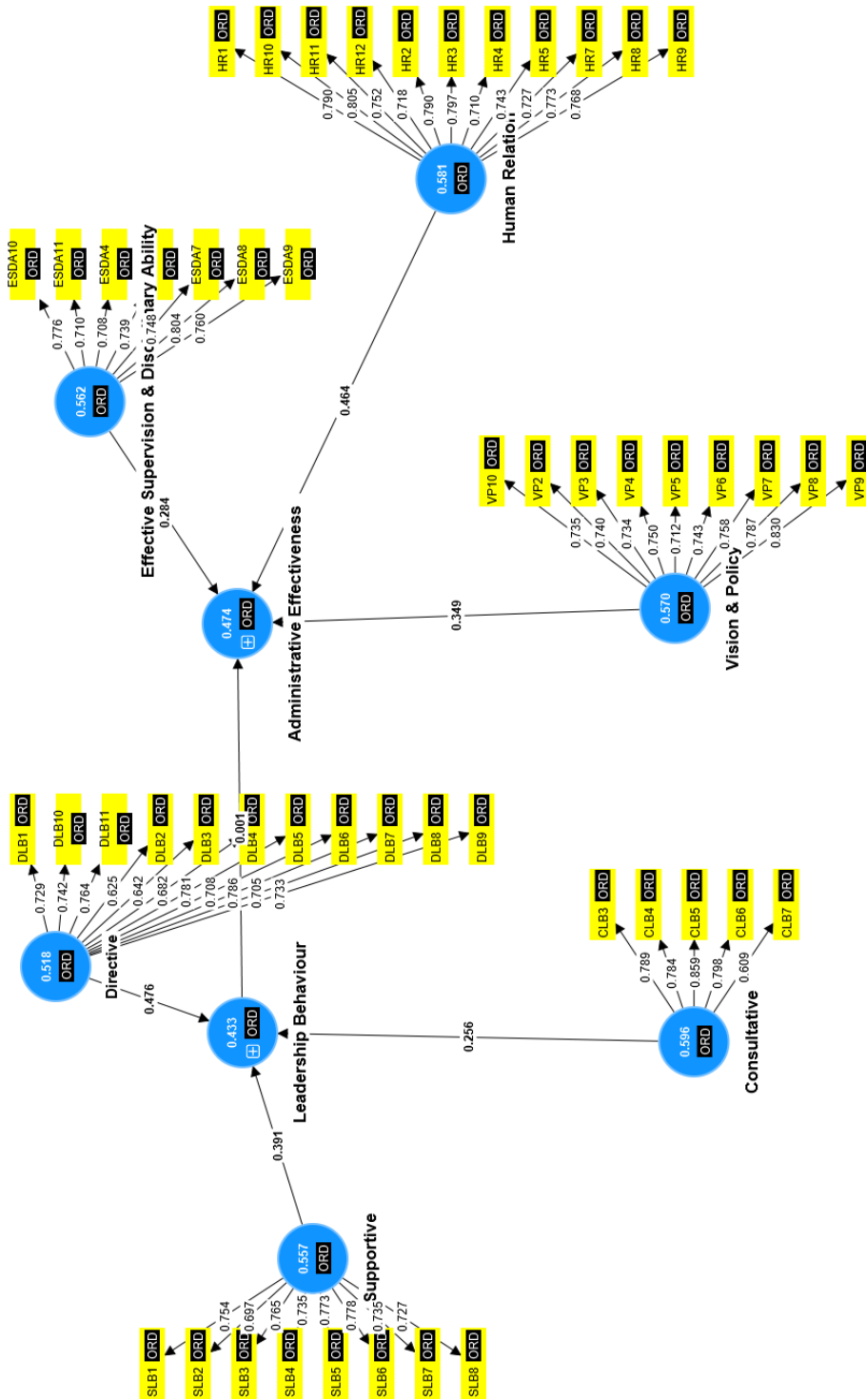


Figure 2. Validated repeated indicator estimation of hierarchical latent variables

Table 5

*Validity and reliability of the measurement model*

<b>Construct</b>	<b>Indicators</b>	<b>Outer Loading</b>	<b>Cronbach's Alpha</b>	<b>Composite Reliability</b>	<b>Average Variance Extracted (AVE)</b>
<b>Consultative Leadership Behaviour. My school head:</b>			0.83	0.88	0.60
understands and shares staff aspirations and feelings	CLB3	0.79			
considers the opinion of others	CLB4	0.79			
asks all staff for their point of view	CLB5	0.86			
encourages creativity among staff members and students	CLB6	0.80			
accepts whatever plan the member of staff initiates	CLB7	0.60			
<b>Directive Leadership Behaviour</b>			0.91	0.92	0.52
provides guidance, advice and instructions as necessary and monitor teachers' performance	DLB1	0.73			
sets performance and rewards norms	DLB2	0.74			
gives directives when there is a serious issue or with drastic consequences if not successful	DLB3	0.76			
is approachable and friendly as a manager	DLB4	0.63			
is willing to collaborate with staff members continually	DLB5	0.64			
makes sure that everyone is accountable for their task	DLB6	0.68			

Table 5 (Continue)

Construct	Indicators	Outer Loading	Cronbach's Alpha	Composite Reliability	Average Variance Extracted (AVE)
establishes warm interpersonal relationships with the staff members and students	DLB7	0.78			
considers the well-being of participants	DLB8	0.71			
keeps staff informed on relevant tasks, goals and situations	DLB9	0.79			
asks staff for their opinions on decisions	DLB10	0.71			
considers suggestions from staff on school improvement	DLB11	0.73			
<b>Supportive Leadership Behaviour</b>			0.92	0.93	0.52
treats staff and students fairly	SLB1	0.72			
encourages when teachers have a low willingness to work	SLB2	0.71			
motivates and builds confidence in teachers	SLB3	0.77			
gives room for listening, praising and making teachers sense great when they show the required commitment to the teaching job	SLB4	0.73			
shows concern for their welfare and promotes staff cohesiveness	SLB5	0.63			
provides a comfortable environment and work climate for members of the staff and students	SLB6	0.66			
consults with teachers about decision making	SLB7	0.73			

Table 5 (*Continue*)

Construct	Indicators	Outer Loading	Cronbach's Alpha	Composite Reliability	Average Variance Extracted (AVE)
consults teachers to obtain their ideas and opinions and integrate their suggestions into decision-making	SLB8	0.69			
readily direct and assist the activities of staff and students	ESDA4	0.70			
have concerns and skills in unravelling an array of challenges	ESDA6	0.66			
takes teachers' absence from work seriously	ESDA7	0.71			
does not encourage examination malpractices	ESDA8	0.72			
courageous and firm	ESDA9	0.73			
is constantly reliable, honest, and steadfast by a high standard of "right" and "wrong."	ESDA10	0.78			
has good presentation skills	ESDA11	0.74			
<b>Human Relation</b>			0.93	0.94	0.58
has good presentation skills	HR1	0.79			
has excellent hearing skills	HR2	0.81			
listen cautiously, without bias, empathise with others and fairly attempt to comprehend the presenter's viewpoint	HR3	0.75			
excellent communication skills	HR4	0.72			
knows how the school system work	HR5	0.79			
creates an atmosphere that encourages good teaching and learning process	HR7	0.80			

Table 5 (Continue)

Construct	Indicators	Outer Loading	Cronbach's Alpha	Composite Reliability	Average Variance Extracted (AVE)
has good interpersonal skills	HR8	0.71			
provides a conducive setting in which staff and students are cheerful and willing to work	HR9	0.74			
helps staff and students flourish and prosper in their aspirations	HR10	0.73			
evaluates teachers while teaching pupils	HR11	0.77			
does not allow indecent dressing	HR12	0.77			
<b>Vision and Policy</b>			0.91	0.92	0.57
cares about issues concerning school programmes	VP2	0.74			
uses new ideas to do things differently	VP3	0.74			
has knowledge of the "hows" and "whys" of the instructional curriculum	VP4	0.73			
behaves in such a way that makes every teacher loves the teaching profession	VP5	0.75			
treats people equally	VP6	0.71			
share beliefs, targets and intentions for the prospect of the school with staff and learners	VP7	0.74			
to make long-range planning to meet school goals and objectives	VP8	0.76			
possesses the capability to take on the current demands of the school	VP9	0.79			
has the skill to prepare reasonable financial budgets and spend wisely	VP10	0.83			

variance extracted from the constructs was above the cut-off of 0.50. Therefore, convergent validity was evident.

Furthermore, discriminant validity was assessed.) Molefi and Ayanwale (2023) explained how each construct is unique from other constructs in the model. To achieve discriminant validity of the constructs, the heterotrait–monotrait (HTMT) ratio has recently been established as a better criterion than traditional assessment methods, such as the cross-loadings and Fornell–Larcker criterion (Henseler et al., 2015). More

importantly, Henseler et al. (2015) suggested that a factor with 0.85 and 0.90 for HTMT is sufficient to establish discriminant validity (DV). This study used an HTMT value of 0.90 as a cut-off to assess DV. Table 6 presents the outcomes of the DV estimation of the measurement model using the HTMT ratio.

Table 6 shows that the constructs are not correlated since their values were below the cut-off of 0.90. Thus, the two scales can have both convergent and discriminant validity and are adequately reliable.

Table 6

*Discriminant validity assessment of the measurement model*

Construct	Consultative	Directive	Effective Supervision and Disciplinary Ability	Human Relation	Supportive	Vision and Policy
Consultative						
Directive	0.72					
Effective Supervision and Disciplinary Ability	0.65	0.65				
Human Relation	0.61	0.62	0.87			
Supportive	0.88	0.71	0.66	0.67		
Vision and Policy	0.61	0.59	0.76	0.77	0.62	

## DISCUSSION

This study constructed and validated a measurement instrument for leadership behaviour and administrative effectiveness in primary public schools. Teachers'

responses to the scales were analysed using parallel analysis to determine the number of dimensions. The results remarked that three factors are viable for leadership behaviour: directive, supportive, and

consultative (Kuhn, 2007; Mbon, 2017). Meanwhile, administrative effectiveness has three tenable sub-dimension: effective supervision and disciplinary ability, human relation, vision, and policy (Apebende & Ushie, 2018; Mbon, 2017; Shamaki, 2015). These evident constructs were aligned with what has been documented in the literature as dimensions of the latent variables. Indeed, five items were loaded under consultative leadership behaviour, 11 under directive leadership behaviour, and 13 under supportive leadership behaviour. While ten items were loaded under effective supervision and disciplinary ability, 11 were loaded under human relations, and nine were loaded under vision and policy. Also, survived items from the parallel analysis were subjected to PLS-SEM to establish construct validity (convergent and discriminant) and scale reliability.

The results remarked acceptable outer loadings values ranging from 0.63 to 0.86, average variance extracted value between 0.52 to 0.60 and composite reliability of 0.88 to 0.94 for all the constructs. The average variance extracted (AVEs') value was used to determine the convergent validity for the scale. Values above 0.50 cut-off were evident for all the constructs, greater than 50% of the items' variance explaining the underlying latent construct (Chin, 2010). In addition, the findings agree with the submission of Ayanwale and Oladele (2021) that using average variance extracted (AVEs' > 0.40) shows convergent validity of the instrument used since the current CV is greater than 0.40. Furthermore, the

constructs are distinctive, showing the discriminant validity and reliability of the scale. It is consistent with Henseler et al. (2015) and Voorhees et al. (2016) that AVE should be higher than its relationship with other factors, otherwise known as the uniqueness of the constructs.

## CONCLUSION

In Sahara Africa, researchers struggled to find an instrument to conduct their leadership and management study, resulting in unvalidated, self-designed instruments. In conclusion, the study validated the scale for measuring head teachers' behaviour and their administrative effectiveness in public primary schools. Scale development was conducted using a non-experimental design. R-programming and Partial Least Square Structural Equation Modeling were used to establish factors of the scales and construct validity and reliability. The 29 items of leadership behaviour fall into three categories (directive, supportive, and consultative). All the components' average variances were above the 0.50 threshold, HTMT values were below 0.90, and composite reliability values were above 0.70. Therefore, the scales were valid and reliable. Consequently, the researchers concluded that considering the robust psychometric and statistical process the scales were subjected to, it is valid and reliable for researchers and policymakers to use to measure the school leadership behaviour and administrative effectiveness.

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## **Nigeria and the International Covenant on Economic, Social and Cultural Rights: Straightening the Crooked Path**

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### **ABSTRACT**

As encapsulated in the Universal Declaration of Human Rights of 1948, economic, social, and cultural rights are indispensable components of the fundamental rights that the global community guarantees to all humankind, alongside civil and political rights. Specifically, the United Nations adopted the International Covenant on Economic, Social, and Cultural Rights (ICESCR) in 1966 to expedite the fulfillment of ESCR while imploring Member States to adopt and domesticate the same to stimulate the realization of these rights at the national level. This study examined Nigeria concerning their effort toward fulfilling the obligation to the ICESCR, which she affirmed. Depending on data derived from secondary sources and analyzed using thematic and content analysis techniques, the study found that Nigeria maintains demonstrable support for the international community in promoting the universal realization of ESCR. Nigeria has ratified and domesticated the ICESCR at the global level and the African Charter on Human and Peoples' Rights at the regional level and incorporated these rights into their extant 1999 National Constitution. Nevertheless, Nigeria's path to fulfilling its obligation to the ICESCR is crooked as it faces some underlying problems that impede its effort, including the paradox in its constitution. The study recommends, in addition to other actions, a constitutional reform to repeal Section 6(6)(c) of the 1999 Constitution of Nigeria to categorize ESCR under 'fundamental rights'

and ascribe them the status of 'enforceable' rights under the law to ameliorate these issues.

*Keywords:* Human rights, international community, international human rights treaties, socio-economic and cultural rights, state human rights obligations

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## INTRODUCTION

Recognizing that every human being is a free-born with indistinguishable dignity and freedoms (United Nations [UN], 1949), human rights can be synonymous with the ‘essence of human existence.’ Hence, the UN Charter places responsibility on States to stimulate broad recognition and adequate regard for and protection of human rights and liberties of the human community members. Ajibabe (2006, p. 16) observes, “the underlying idea of human rights is the promotion of human dignity, freedom, and well-being, something inherent and easily connected with the fulfillment of economic, social, and cultural rights.” Besides, along with civil and political rights (CPR), economic, social, and cultural rights are integral parts of the basic rights outlined in the United Nations Universal Declaration of Human Rights (UDHR) of 1948 (Ikawa, 2020). ESCR includes, among others, the right to work and social security, the right to good living conditions, the right to marry and hold a family, the right to education, and the right to uphold and display the cultures of one’s community, which are vital to self-fulfillment and actualization of individuals’ innate potentials.

The UN’s primary interest is the promotion of every human right. Therefore, the global governing body took specific steps to express ESCR as a lawful right by adopting the International Covenant on Economic, Social, and Cultural Rights in 1966, with the committee on ESCR constituted to oversee the convention’s implementation (Udu, 2014). The UDHR

provides the incentive for the upgrading of the status of ESCR (Grigsby, 2017). The ICESCR, UDHR, and International Covenant on Civil and Political Rights (ICCPR) comprise the ‘International Bill of Rights.’ According to Shiman (n. d.), nearly all the countries in the world have demonstrably committed themselves to realize ESCR wholly by acceding to the UN worldwide treaty on these rights. Nigeria as a member of the UN is not an exception as she acceded to the ICESCR on July 29, 1993, and it took active effect in the country in October of the same year (Grigsby, 2017).

However, the full realization of ECSR in Nigeria has remained a dream rather than a reality due to certain impending issues. This scenario negates the fundamental rationale of the ICESCR. This paper, therefore, adopts the secondary method of data collection and the thematic and content analysis techniques of qualitative data analysis to investigate these besetting factors. The rationale is to devise adequate measures for ameliorating the problems to enable Nigeria to conveniently fulfill its commitment to the ICESCR and contribute robustly to the global community’s effort at enhancing and guaranteeing all human rights in general.

## Literature Review

Within the international community, recognition and respect for all the basic rights of the human person have long been widely acknowledged as one of the arch-pillars of global peace and harmony. Of course, the drafters of the UDHR consider the acknowledgment of the intrinsic prestige,

equality, and inviolable rights of all persons as a basic requirement for the actualization of freedom, fairness, and tranquility in the world (UN, 1949). Specifically, it is impossible to sustain peace in society if proper attention is not given to ESCR (Cahill-Ripley & Hendrick, 2018). There is an authoritative view that “human rights put people [at the] center stage” (UN, 2020, p. 2) in the scheme of things. Unsurprisingly, the preamble to UN Charter illustrates the member nations’ reassertion of faithfulness to fundamental human rights, along with the honor and value of all humans as well as according to equal rights to men and women (UN, 1945). Dugard (2020, p. 2) reminds us that:

The contemporary international human rights system was developed largely in response to the atrocities of World War II as a means to assert universally applicable human rights norms and standards and to establish binding mechanisms to hold states accountable for human rights failures and violations.

It is in view of this that international legitimately mandatory covenants and supervisory bodies within the United Nations provide extensive statutory instruments to prevent discriminatory practices at the national level (Lougarre, 2020).

From its inception, the UN has exalted the place of human rights in achieving its mandate and hence prioritizes and champions the universal advocacy for

the defense of every individual right. The latter, ESCR is a component of the entire framework of human rights law that evolved in and sequel to World War II (CESR, n. d.). Like other rights, international efforts at promoting and safeguarding ESCR at regional, sub-regional, and national levels are being catalyzed by the UN, which recognizes these rights in most of its human rights legal instruments. Meanwhile, UN Charter is the foundation of all its human rights instruments. Article 55(3) of the Charter, as Lougarre (2020) notes, forms the basis for drafting the organization’s main human rights agreements. Nevertheless, the UDHR sets out the international accord on universally accepted human rights norms or principles, inclusive of ESCR, and no State has categorically discredited the UDHR (Dugard, 2020).

It is argued that “human rights instruments are ‘living instruments’...” (Smith, 2020, p. 224). In its UDHR, the UN had emphasized ESCR under Articles 16 and 22 to 29 before adopting the ICESCR in 1966. Article 16 confers rights on every grown person, male and female, to marry and keep a household, provided that the intending couples freely and fully agree. It regards the family as the instinctive and indispensable part of society, which the State and society are obligated to protect (UN, 1949). Article 22 equivocally entitles all members of the society to the right to social security, which is to be realized through national effort and transnational collaboration consistent with the formation and resources of every State and the ESCR imperative for their dignities

and unconstrained personal advancement (UN, 1949). Articles 23 to 29 embody other elements of ESCR, including the right to work, the right to rest and leisure, the right to a decent standard of living, the right to education, and the right to engage in cultural activities of one's people (UN, 1949), among others. In an effort to facilitate the achievement of ESCR, the UN further decided on December 16, 1966, to adopt the ICESCR. The convention became effective on January 3, 1976, until July 2020, 171 State entities ratified it (Ikawa, 2020). The UN acceded to the Optional Protocol to the ICESCR (OP-ICESCR) on December 10, 2008, but it took effect on May 5, 2013, and several State parties have ratified it (Langford et al., 2016).

The Scottish Human Rights Commission (2020) canvasses the idea that the absence of appropriate and potent remedies for ESCR in nations creates the impression that social policies are welfare measures instead of a part of the obligation to guarantee the attainment of universal human rights requirements. As a result, from the time it was adopted, the UN Economic and Social Council (ECOSOC) has successively saddled three varying bodies with the responsibility of monitoring the implementation of the ICESCR by Member States, namely, "the Sessional Working Group on the Implementation of the ICESCR; the Sessional Working Group of Governmental Experts on the Implementation of International Covenant; and, from 1985, the CESCR, consisting of 18 members who [are]...experts with recognized competence in the field of

human rights..." (Ikawa, 2020, p. 14). The CESCR had initially utilized only two measures to spell out the duties of States and to make States answerable to these duties. Concerning the first mechanism, the Committee carries out seasonal scrutinization and analysis of States' reports on the application of the treaty, which is presented every five years, accompanied by negotiations with the States' delegates at a reserved session of the Committee. The final opinions regarding positive actions, undertakings, and suggestions are also approved at this session. The second mechanism involves the Committee developing and adopting general statements or remarks that present detailed clarifications of the pact and give States and other parties guidance on requirements for adherence, both in respect of specific rights and interconnecting tenets (Ikawa, 2020). All these undisputedly portray that the international community has been making relentless and pragmatic efforts toward guaranteeing the protection, actualization, and enjoyment of ESCR by all members of human society.

### **Theoretical Choice**

This study employs the Monism theory in international law as its basic analytical tool. Monism, or the Monistic theory, is one of the dominant theories often used to depict the interrelation between international and municipal laws. The most prominent proponent of Monism is Hans Kelsen. The central argument of the theory is that all laws, international law and domestic

laws of States, form an integrated legal system (Dubay, 2014). The Monistic theory postulates that transnational laws and the State's frameworks of law are to be conceived as an incorporated and undivided arrangement of precepts just as one regards the State's organization of law (Kelsen, 1992). Impliedly, the Monistic theory does not regard international and national laws as distinct legal structures but as one whole system. Monists posit that all the domestic and international binding laws that a State has approved say in an accord decide whether an action is lawful (Kooijmans, 1994).

The Monism theory, therefore, holds a contrary view to that of the Dualism theory, which separates international law from municipal law, and with the affirmation that States necessarily need to domesticate international laws via legislative procedure before they can affect rights and responsibilities at the national level. For Monism, having accepted international law, States naturally incorporate such law into their local legal systems, considering it a component of the broad national legal arrangement (Dubay, 2014). Concisely, Monism as a perspective on the implementation of transnational rule centrally necessitates the immediate adherence to global legislation as a segment of States' laws without necessarily adapting the supporting compact. The pact thus applies as the origin of laws of State parties from the moment they sign and consent to it (Mutubwa, 2019). Within the monism doctrine, international laws serve not only

as a template for interstate interactions on the global stage but also as a source of laws merged with and supreme to national laws (Dubay, 2014). States are consequently not to place or prioritize their narrow-focused municipal laws above international rules laws, which serve to protect the interest of the entire human family.

Considering its basic thrust, this theory is considered ultimately suitable in interrogating the topical issue of this study that sees the Nigerian legal context as an integral part of the universal system of law embodying rights and obligations, and hence its adoption. As Mutubwa (2019) explains, an exhibition of the monist practice by States can be both by straightforward implementation or categorical stipulations in their constitutions that declare international statutes as sources and parts of States laws. It undoubtedly is the case with Nigeria. Apart from ratifying the ICESCR, Nigeria has integrated the ESCR component into its national constitution. By taking these steps, the country is duty-bound to join the international community in the struggle for the promotion and protection of ESCR in the world by enhancing the realization of these rights within its national borderlands. Moreover, being a part of the universal human society in whose interest the ICESCR is made, the circumstances surrounding the ESCR of Nigerians, positive or negative, would have a far-reaching impact on the global community's effort at advancing the attainment of the goals of ESCR in the world. Therefore, guided by the norms of the ICESCR embedded in its municipal

law, Nigeria is obliged to complement the international efforts at actualizing ESCR universally.

## **MATERIALS AND METHODS**

It is a qualitative study that examines Nigeria in relation to the ICESCR. The study depends on secondary data sources, including books, journals, and publications of relevant international and national bodies, such as the UN and its human rights agencies and the National Human Rights Commission of Nigeria (NHRCN). The thematic and content analysis methods of qualitative data analysis were used as the basic data analysis tools. These methods enhanced adequate and systematic identification, examination, extrapolation, elucidation, and elicitation of meaning and drawing of realistic conclusions from the contents of the qualitative-secondary data collected.

## **RESULTS AND DISCUSSION**

This study presents its discussion thematically below, in consistency with the following summary of findings.

### **Summary of the Findings**

Nigeria has taken some major steps in support of the international community's effort towards advancing the realization of ESCR universally through their ratification and domestication of the ICESCR at the global level, the African Charter on Human and Peoples' Rights at the regional level, and recognition of economic, social

and cultural issues in the 1999 National Constitution. Regardless of these sagacious steps, however, Nigeria is faced with some problems that plague its effort toward fulfilling its obligation to the ICESCR, which has been ratified.

### **Nigeria's National Efforts at Promoting the Realization of ESCR**

Considering the major supposition of the Monist theory that is employed in this study, Nigeria exhibits behavioral patterns that depict its perception and acceptance of its domestic legal structure as a component of the international system of law, specifically concerning the ICESCR as evident in the country's recognizable commitment to the treaty. The fact that Nigeria ratified the ICESCR in 1993 indicates that the country is committed to ensuring that its citizens are guaranteed the rights embodied in the pact (Kutigi, 2017). Article 2 of the ICESCR lays the burden on States parties to the agreement to implement plans and programs to facilitate maximum achievement of the ESCR of all individuals. With this, Nigeria is saddled with the duty to take action, particularly by adopting legal mechanisms to fully harness and deploy the resources at their disposal steadily towards the optimal actualization of the rights contained in the treaty (United Nations, 1966). In compliance, Nigeria has resorted to legally binding regional and national frameworks to promote ESCR. On the regional front, the African Charter is part of Africa's Human Rights structure, and the African Union (AU) ensures that the State members recognize all the rights to achieve

development (Olaniyi, 2019). Nigeria has in 1983 endorsed, certified, and domesticated the African Charter on Human and Peoples' Rights (ACHPR), otherwise called the African Charter (Ibe, 2010; International Justice Resource Centre [IJRC], 2017; Kutigi, 2017).

Upon ratification, Nigeria naturally makes the ACHPR a component of the national law (Kutigi, 2017). It is because the ACHPR obliges member States to incorporate into national legal frameworks certain safeguards for ESCR (Ibe, 2010). As Kutigi (2017) states, the ACHPR recognizes ESCR as a fundamental right, thereby resulting in the acknowledgment of ESCR as a basic right within Nigeria. In guaranteeing their protection, Article 45 of the Charter affirms the justiciability of all rights, including the ESC rights, before the African Commission on Human and Peoples' Rights (Grigsby, 2017; Ibe, 2010). The Commission supervises Nigeria's human rights programs and actions, re-evaluates the nation's reports on its human rights conditions and resolves accusations of suspected rights abuses. Nigeria has, expectedly, periodically presented reports on the country's human rights circumstances to the Commission. At the same time, the Commission has severally embarked on assignments to Nigeria, such as their promotional missions in 1997 and 2009, respectively, coupled with a 2001 mission undertaken regarding women's rights (IJRC, 2017). Importantly, "Nigeria has accepted the jurisdiction of the African Court on Human and Peoples Rights to hear complaints presented by the

Commission, African intergovernmental organizations, and States parties to the African Charter" (IJRC, 2017, p. 1). The Economic Community of West African States (ECOWAS) Court of Justice has also certified that all rights subscribed to by the ACHPR are enforceable before it (Ibe, 2010).

Chinwo (2006) agrees that a constitution is a supreme document that should contain a nation's goals, aspirations, and philosophies. Oluwadayisi (2014) believes this viewpoint brought about the idea of including DPSP in the Constitution. Resultantly, following the footsteps of countries such as Spain, Ireland, and India along with various emerging democratic systems, Nigeria embedded in the 1999 Constitution a category of aims and objectives defined as Directive Principles of State Policy (DPSP) that encompasses ESCR (Oluwadayisi, 2014). In other words, on the national or domestic front, the Nigerian 1999 Constitution well-incorporates human rights safeguards, which seek to protect all rights, and theoretically, the Nigerian courts reserve the legitimate jurisdiction to probe into abuses of ESCR of the citizens (Grigsby, 2017). It is pertinent to note that it was in Nigeria's 1979 Constitution that DPSP was initially instituted before it appeared in the 1989 and the current 1999 Constitutions, respectively (Oluwadiyisi, 2014). Specifically, in Chapter II, which contains the DPSP, Nigeria's 1999 Constitution provides for ESCR, while CPR is enunciated in Chapter IV under the subject 'Fundamental Rights' (Federal Republic of Nigeria [FRN], 1999).

It would be insightful to succinctly mention a few of the provisions in the constitution under which these rights are enshrined. As regards economic rights, Section 16(1) (b & d) of the constitution enjoins the State to:

- a. control the national economy in such manner as to secure the maximum welfare, freedom, and happiness of every citizen on the basis of social justice and equality of status and opportunity; and (d) without prejudice to the right of any person to participate in areas of the economy within the major sector of the economy, protect the right of every citizen to engage in any economic activities outside the major sectors of the economy.

Concerning social rights, the constitution in Section 17(1), (2) (a), and (3) (a) requires that:

The State social order is founded on ideals of Freedom, Equity, and Justice; every citizen shall have equality of rights, obligation[s] and opportunities before the law; all citizens, without discrimination on any group whatsoever, have the opportunity for ensuring adequate means of livelihood as well as adequate opportunity to secure suitable employment.

Section 18(1) (2) (3) is directly related to the right to education, where the constitution holds as follows:

Government shall direct its policy toward ensuring that there are equal and adequate educational opportunities at all levels. Government shall promote science and technology. Government shall strive to eradicate illiteracy, and to this end, Government shall, as and when practicable, provide: free, compulsory, and universal primary education; free secondary education; free university education; and [a] free adult literacy program.

Recognizing the cultural richness of Nigeria and the multiethnic configuration of the country and, of course, the fact that Nigerian communities are closely tied to and deeply enmeshed in their cultures, the constitution, concerning cultural rights, unequivocally instructs the State in Section 21, to:

- a. protect, preserve, and promote the Nigerian cultures, which enhance human dignity and are consistent with the fundamental objectives as provided in this Chapter; and (b) encourage [the] development of technological and scientific studies which enhance cultural values.

The DPSP directs the government of the day to meet the citizenry's demands regarding political, economic, social, educational, and other issues (FRN, 1999). Section 13

saddles every organ of the government and every authority and person wielding capacities to formulate, implement and interpret laws, adhere to, recognize, and exercise the stipulations of chapter two of the constitution (FRN, 1999). It shows that Nigeria, by ratifying the ICESCR and ACHPR at global and regional levels, respectively, understands that it has an all-important obligation to use legislation to advance the protection and actualization of the ESCR of the citizens. In this vein, the preamble to the Constitution of Nigeria also outlines the country's political antecedent and sets the carriage for a transformational spotlight on enhanced living conditions for the entire citizens and for exploring the potential of every individual (Ngang, 2014).

### **Impediments to the Actualization of ESCR in Nigeria**

This study believes that, without a doubt, Nigeria has made some noteworthy efforts in supporting the global community's goal of protecting and actualizing ESCR, particularly through legislation, both at international, regional, and national levels. Nevertheless, there are underlying factors that impede the country's attempts at fulfilling its obligations to the ICESCR, which include the following:

### **Contradictions within Nigeria's National Legal System**

The biggest obstacle to Nigeria's fulfillment of its obligation to the ICESCR is the

paradox with economic, social, and cultural issues in the country's 1999 Constitution, which is the basis of its corporate existence, and a major determinant of its actions. This paradox lies in the fact that the same 1999 Constitution of the Federal Republic of Nigeria that provides for CPR in Chapter IV and unequivocally makes this set of rights justiciable provides for ESCR in Chapter II but does not regard these rights as fundamental rights nor makes them justiciable in the court of law. At best, the constitution describes and treats ESC issues as objectives of the State [under DPSP] instead of as rights, despite how critical ESCR is to the existence and well-being of the country's citizens (Oluwadayisi, 2014).

Kutigi (2017) elaborates on this scenario thus:

...in spite of the recognition given to these issues in the Constitution (and the establishment of certain public institutions and laws to ensure that socio-economic rights enshrined in welfare laws are enforced), the same constitution does not accord these ESC rights the status of fundamental human rights, while at the same time doing so in the case of the CP rights guaranteed in its Chapter IV. (p.135)

The distinction in the legal nomenclatures and statuses of CPR and ESCR are further marked by differing enforceability status for every two sets of rights in the constitution, which does not

permit the courts to adjudicate matters bothering ESCR (Olaniyi, 2019). This means that “economic, social and cultural rights are not enforceable as stand-alone rights under the 1999 Constitution” (National Human Right Commission of Nigeria [NHRCN] 2009, p. 7).

In Section 6(6) (c), the 1999 Constitution of Nigeria stipulates as follows:

The judicial powers vested in accordance with the foregoing provisions of this section shall not, except as otherwise provided by this Constitution, extend to any issue or question as to whether any act of omission by any authority or person or as to whether any law or any judicial decision is in conformity with the Fundamental Objectives and Directive Principles of State Policy set out in Chapter II of this Constitution.

This provision remains the biggest clog in progress toward achieving ESCR in Nigeria. To the extent that the constitution denies justiciability to ESCR, it becomes paradoxical the fact that the same constitution in its “section 13 imposes a ‘duty and responsibility’ on ‘all organs of government, and...all authorities and persons, exercising legislative, executive or judicial powers, to conform to, observe and apply’ the provisions of Chapter II” (Kutigi, 2017, p. 134). Apart from being a major legal contradiction, the relegation of ESCR by the Nigerian constitution indicates that the country prioritizes CPR over ESCR,

and this situation besets the whole effort at protecting and actualizing the ESCR of the country’s citizens, and by extension, this invariably impacts negatively on efforts at the global level. In short, it is correct to state, given the argument of Grigsby (2017), that Nigeria has derailed its obligation as a State party to the ICESCR.

### **High Incidence of Official Corruption**

The National Human Rights Commission of Nigeria unreservedly reveals how corruption among government officials in Nigeria hampers citizens’ realization and enjoyment of ESCR. As it posits: “Corruption by public officials and corrupt national institutions has negatively impacted the provision and availability of important infrastructures and other social and economic facilities. This has therefore affected the realization of economic and social rights in the country” (NHRCN, 2009, p. 7). Similarly, Ola et al. (2014) maintain that corruption in Nigeria has had many adverse consequences for governance and overall social arrangement as it has paralyzed the country’s ability to provide social and economic rights, even at a minimal level, including health and education, for the enjoyment of the citizenry. These observations amply validate the position of the United Nations Office on Drugs and Crime [UNODC] (2020) that corruption’s effect is particularly noticeable regarding ESCR. It further asserts that state officials generally consider ESCR to involve a larger outlay of government resources than civil and political rights would require, as the latter only demands that the state

refrains from inhibiting persons' freedoms (UNODC, 2020).

This standpoint finds proper expression in Nigeria, where State officials usually conceal and divert to their purses such monies and resources that ought to be earmarked and used for executing concrete projects and programs that can improve the welfare of the citizens (Olaitan & Oyeniyi, 2015). Corruption in government is the major reason most Nigerians live below the poverty line, whereas their country is endowed with enormous resources that could improve their lives. Poignantly, "poverty in Nigeria is a contradiction because it has been growing in the context of an expanding economy where the benefits have been reaped by a minority of people and have bypassed the majority of the population" (Mayah et al., 2017, p. 13). Precisely, corruption in government has subjected 54 percent of Nigerian citizens to abject poverty because the menace has prevented Nigeria from utilizing its resources to stimulate social good since privileged private individuals pocket these resources (Grigsby, 2017).

Corruption is also the cause of mass unemployment and the inability of citizens to access and enjoy other essential things of life, including shelter, healthcare services, and quality education, among others. Indeed, as Olaitan and Oyeniyi (2015, p. 157) put it, "in Nigeria, corruption is an obstacle to implementing the right to development, employment, education, health care, and progress." It is because, through corruption and mismanagement,

as much as 40 percent of the country's \$20 billion yearly revenue from oil could have been utilized to better the lots of the citizens is squandered (Ola, Mohammed & Audi, 2014). It is, therefore, clear that corruption constrains social and economic development in Nigeria in virtually every aspect of the country's national life (NHRCN, 2009), thereby making it difficult for the citizens to enjoy economic and social rights.

### **Limited Education and Awareness Among Citizens**

Ifejika (2021) has rightly alluded that the low literacy level in Nigeria is one of the main challenges to advancing, protecting, and enjoying human rights in general in the country. The CESR (n. d.) observes that all human rights, including ESCR and CPR, are firmly knit together, in that, for instance, the right to speak freely cannot be maximized if individuals lack basic education, the right to vote would mean little or nothing if one is facing deprivation and hunger. Likewise, the right to work would be meaningless if persons were restricted from meeting and assembling in the congregation to engage in discussions concerning conditions of work (CESR, n. d.). It presupposes that it takes an educated and well-informed citizenry to know what constitutes their rights and privileges and how to claim such rights. According to Olaitan and Oyeniyi (2015, pp.162-163), "through education, people have adequate knowledge about their health, the economy and the running of government. Educated people are aware of their rights and can hold the government

accountable for any lapse in the country's affairs".

In Nigeria, due to the high rate of illiteracy, most citizens are not even fully aware of the position of the constitution on their CPR, that is, the so-called justiciable category of rights, let alone the non-justiciable ESCR, which are almost absolutely neither talked about nor given any attention by government authorities. With this, there have not been any meaningful mass actions by Nigerian citizens to demand the government to change the status of ESCR to enforceable rights like the CPR in the country's current constitution. The alarming illiteracy rate in Nigeria is mainly due to the rife poverty among the citizens and bad management of the education sector. As Igwe et al. (2019) explain:

...the illiteracy rate in Nigeria is on the increase due to economic hardship as youth and children are forced on the street to earn a means of livelihood; education has become so expensive as privatization of primary, secondary, and tertiary institutions is on the increase, and public schools are not properly equipped and taken care of: procedures for acquiring admission in tertiary institutions have become very cumbersome and very little has been done on public enlightenment for encouraging people to engage in adult literacy programs. (p. 33)

As of today, Nigeria has not achieved the goal of universal basic education; the

United Nations Children's Fund (UNICEF) has disclosed that one-quarter of all Nigerian children (25 percent) between ages 7 and 17 lack education, and "out of these, 49 percent are from the lowest wealth quintile" (Olaitan & Oyeniyi, 2015, p. 163). Given this prevailing situation, the problem of illiteracy has become transgenerational in Nigeria as most citizens, especially the young ones, have over the years been discouraged from pursuing and attaining a good educational level that would position them to vigorously demand accountability from the government regarding their rights, or specifically advocate for the implementation of ESCR enumerated in the constitution.

### **Imprint of Colonialism**

Perhaps, another factor that can be added to the preceding three major issues, which is somewhat proximate and silent, is a colonial legacy. This factor is at the root of the dichotomy in the level of importance placed on CPR and ESCR, respectively, in the Nigerian constitution. All rights classes are equally important, and none should be emphasized over others. Recall that Article 5 of the Vienna Declaration and Program of Action requires that "...the international community must treat human rights globally in a fair and equal manner, on the same footing, and with the same emphasis" (World Conference on Human Rights, 1993, p. 3). Quane (2012) corroborates that CPR is not more important than ESCR because the adequate implementation of one category influences the implementation of the other and vice versa. However,

against these facts, Nigeria, as part of its colonial legacies, inherited basic human rights provisions that were more or less completely civil and political in nature instead of socio-economic (Eze, 1984). It is for this reason that, in Nigeria, "... almost all judicial, scholarly, and other legal attention has been paid to the promotion and protection of CP rights while comparatively little attention has been focused on the legal realization of ESC rights" (Kutigi, 2017, p. 135). Therefore, colonialism has shaped the Nigerian legal system in a way that has created the impression that CPR is more important than ESCR, and hence the continuing emphasis on the advancement of CPR alone in the country up to date, an idea that directly discriminates against ESCR.

## CONCLUSION

Nigeria has shown discernible support for the international community's objective of enhancing, protecting, and guaranteeing the enjoyment of ESCR by every human through their ratification and domestication of the ICESCR at the global level, the ACHPR at the regional level, and recognition of ESCR in their national constitution. According to the Monistic theory adopted in this study, it makes the country a part of the international legal system. Notwithstanding, several challenges confront Nigeria in this regard, most notable of which stems from the contradiction in the country's constitution, increased rate of corruption in government, and disturbing trend of illiteracy among the citizens, all of which plague the country's effort in fulfilling its obligation to the United Nations ICESCR that has ratified.

## Recommendations

The challenges identified above represent the crooked path to be straightened to enable Nigeria to sail smoothly toward adequate fulfillment of its obligation of promoting, protecting, and realizing the goal of the ICESCR within its territorial jurisdiction. Considering this, the study proposes the following actions.

1. The National Assembly of Nigeria, being the main organ representing the masses of the citizens in government, needs to call for a sovereign constitutional reform to amend the 1999 Constitution of the Federal Republic of Nigeria and categorize ESCR under fundamental human rights, as well as ascribe these rights the status of justiciable rights just as it does for CPR. It implies that the clause in Section 6(6) (c) of the constitution that discriminates against ESCR by not permitting the judiciary to adjudicate cases related to this class of rights must be expunged. This way, the ESCR and CPR would be given equal attention by the constitution, thereby setting the context for Nigerians to be guaranteed proper protection for and enjoyment of all their rights.
2. The current President of Nigeria, Muhammadu Buhari, is reputed for his zero tolerance for corruption. Hence, Buhari's administration should rejig the country's anti-corruption architecture and stimulate an increase in the tempo of all the relevant institutions, especially the Economic and Financial Crimes

Commission (EFCC) and Independent Corrupt Practices and Other Related Offences Commission (ICPC) in fighting the evil of corruption. There should be no ‘sacred cows’ as far as the current effort at ridding Nigeria of corruption. Any public officials reported to have indulged in any act of corruption should be strictly prosecuted and, if found guilty, adequately punished under the law, including outright expulsion from government service, irrespective of who they are and their political affiliations. The EFCC and ICPC should raise awareness among government officials about corruption, including giving and taking bribes, making false financial claims, and manipulating positions for personal gain. It will help officials avoid engaging in corrupt practices. All this would show the government’s seriousness in combating corruption and instill a strong sense of caution into the entire public sector, consequently reducing the rate of corruption that has ravaged the entire nation and immersed the citizens into unprecedented hardships and sufferings.

3. Given that the Nigerian government has failed to provide quality and affordable education at all levels to the citizens despite the clamors for this over the years, the only option left is for Nigerians to pay the ‘big prize’ by resorting to self-help. It ensures that they acquire the necessary education to help them live a meaningful life. Parents should ignore the increased frustration

in the country and take responsibility for sending their children to school, as ignorance can never be equated with the cost of acquiring knowledge. It would help reduce the country’s illiteracy level to the barest minimum and save future generations of Nigerians from the perils of ignorance. In particular, it would put the citizens in a better position to know all their rights, including ESCR, demand protection for these rights, and hold the government accountable if they are denied the privilege to enjoy them.

4. Nigeria needs to completely purge its legal system of all colonial vestiges and orientations as a fully independent country. In this sense, every content of Nigeria’s legal framework inherited from its colonial lord must be jettisoned, and the country should conceive its philosophies, procedures, and practices based on the realities of its polity. In particular, Nigeria’s colonial thinking or idea that CPR is more important than ESCR is erroneous. It must be discarded, as all rights are equally essential to the survival and well-being of Nigerians.

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## **Women's Empowerment in Malaysia and Indonesia: The Autonomy of Women in Household Decision-Making**

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### **ABSTRACT**

Ensuring gender equality and empowering women is crucial, as they play a significant role in driving economic and societal development. This study examines women's empowerment levels in Malaysia and Indonesia, two neighbouring countries with a predominantly Muslim population. Data were obtained from the Fifth Malaysian Population and Family Survey 2014 and the Indonesia Demographic and Health Survey 2017. A total of 5,175 Malaysian and 34,467 Indonesian married women aged 15–49 were selected for this study. The variables used include women's autonomy in household decision-making (a proxy for women's empowerment), educational level, work status, place of residence, number of children, and women's age. Findings reveal that Malaysia has a higher proportion of women with tertiary education than Indonesia (25.2% versus 14.7%). However, the proportion of women who were employed was lower in Malaysia than in Indonesia (45.4% versus 57.0%). Concerning household decision-making participation, approximately 46% of Malaysian women participated in all household decisions, as compared to 73% among Indonesian women. Binary logistic regression analysis indicates that all selected independent variables, except the place of residence, were significantly associated with women's autonomy in household decision-making in both countries at the multivariate level. Women's socio-

economic characteristics greatly influence their status in the household and decision-making autonomy. Enhancing women's education and employability can empower them and strengthen their decision-making autonomy.

**Keywords:** Indonesia Demographic and Health Survey, Malaysian Population and Family Survey, women's empowerment, women's autonomy in household decision-making

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## INTRODUCTION

Achieving gender equality is vital as women are important contributors to economic and societal development. Therefore, it is essential to enhance the position of women and foster their empowerment at various institutional and societal levels. The United Nations (UN) established Millennium Development Goals (MDGs) and Sustainable Development Goals (SDGs) as the blueprint to improve the lives and prospects of every individual globally, and special attention is given particularly to women and marginalised groups (UN, 2015, 2021b). Despite the continuous efforts to achieve gender equality, enormous challenges and obstacles remain pervasive, such as the underrepresentation of women in political leadership, violence against women, and gender discrimination in the workplace, especially in developing countries (UN, 2021a).

Gender inequality is prevalent in Asian countries. The score of the Gender Inequality Index (GII) in East Asia and the Pacific region was 0.324, which indicated that the inequality in the region was relatively high (United Nations Development Programme [UNDP], 2020). In addition, it was reported that East Asia and the Pacific region required about 165 years to achieve gender parity (World Economic Forum [WEF], 2021). The primary focus of this study is to examine the levels of women's empowerment in Malaysia and Indonesia, two neighbouring Southeast Asian countries that share similar religious norms and beliefs.

The levels of women's empowerment differed markedly between Malaysia and

Indonesia, ranging from health to socio-economic aspects. Malaysian women received better reproductive health care than the Indonesian women. The maternal mortality ratio (MMR) in Malaysia was lower at 29 deaths per 100,000 live births, compared to 177 in Indonesia in 2019. In addition, the adolescent birth rate was also lower in Malaysia (13.4 births per 1,000 women aged 15-19) as compared to Indonesia (47.4) in 2019 (UNDP, 2020). Meanwhile, Malaysian women have greater access to higher education than Indonesian women. The tertiary enrolment rate in Malaysia was 49.9%, compared to 39.0% in Indonesia in 2020. The female labour force participation rate was slightly higher in Indonesia, reported at 56.0% in 2020, compared to 55.5% in Malaysia. Regarding political empowerment, the percentage of parliamentary seats held by women was only 14.9% in Malaysia, which was much lower than that in Indonesia (21.1%) in 2020 (WEF, 2021). Despite Malaysian women having better access to reproductive health care services and educational opportunities than Indonesian women, the overall gender gap in Malaysia was higher than in Indonesia. Based on the Gender Gap Report 2021, Indonesia had closed 68.8% of gender gaps, while Malaysia had closed 67.6% of gender gaps (WEF, 2021). Thus, the underlying reasons contributing to gender equality need to be addressed.

Kabeer (1999) proposed a framework that conceptualised women's empowerment into three dimensions: resources, agency, and achievement. Resources, which include material, human, and social resources, are

served to improve the power to exercise choice. Access to these resources will reflect the rules and norms that govern society's distribution. For example, the head is endowed with decision-making power under their position within the household. Agency refers to the ability to define one's goals and act upon them. Besides decision-making, the agency can be operationalised through bargaining and negotiation. Lastly, achievement refers to well-being outcomes. Altogether, the agency is the centre of the empowerment concept, resources are the medium through which agency is exercised, and achievement is the outcome of agency (Kabeer, 2005).

The three empowerment dimensions are interrelated (Kabeer, 1999). However, the achievements dimension is not frequently utilised to assess empowerment since it requires a clear distinction between the differences in making choices and the inequality in the ability to make choices. Because not all individuals are given equal rights in decision-making and taking action, gender inequality prevails in achievement. Consequently, resources and agency are the two most frequently addressed facets of women's empowerment (Kabeer, 1999; Malhotra et al., 2002). However, resources are usually viewed as the prospective enabling factor to promote empowerment (Malhotra et al., 2002). Moreover, resources are affected by other factors, such as socio-economic status, social norms, and culture (Govindasamy & Malhotra, 1996; Malhotra & Mather, 1997). In consequence, using resources as a proxy for empowerment could result in conceptually ambiguous

and misleading findings (Samari & Pebley, 2015).

Richardson (2017) advised employing a direct indicator of empowerment. The agency, which is the direct indicator of women's empowerment, is deemed an appropriate dimension to capture women's empowerment (Kabeer, 1999; Malhotra et al., 2002; Richardson, 2017). Furthermore, Kabeer (1999) asserted that the agency domain tends to operationalise as decision-making in the social science context. Hence, this study adapts the agency domain in selecting the women's empowerment measure and focuses on women's empowerment at the household level, particularly women's autonomy in household decision-making.

Women's autonomy in household decision-making was a commonly used measure to represent women's empowerment at the household level (Kishor & Subaiya, 2005; Lamidi, 2016; Malhotra et al., 2002; Oyediran, 2016). There are several past studies investigating women's empowerment in Malaysia (Al-Shami et al., 2017; Yusof, 2015; Yusof & Duasa, 2010) and Indonesia (Colfer et al., 2015; Rizkianti et al., 2020). However, empirical studies of women's empowerment in Malaysia focused primarily on women's financial decision-making instead of their decision-making on household matters. In contrast, the empirical studies of women's empowerment in Indonesia focused on women's household decision-making. Another Indonesian study by Ng and Tey (2018) restricted the women's empowerment indicators to women's perceptions towards

wife beating justifications and safer sex negotiation. Hence, this study aims to fill in the research gap by examining the levels of women's empowerment in Malaysia and Indonesia, using women's autonomy in household decision-making as a proxy for women's empowerment.

The gender gaps in Malaysia and Indonesia worsened from 2020 to 2021 (WEF, 2021). It indicates that more efforts are needed to close the gender gaps in both countries. Hence, it is essential to identify the factors associated with women's empowerment, particularly their involvement in household decision-making, to provide some insights to policymakers in formulating strategies to elevate the status of women. In addition, women's educational level and work status will also be discussed.

## MATERIALS AND METHODS

### Study Design

The data for this study were obtained from the Fifth Malaysian Population and Family Survey (MPFS-5) 2014 and the Indonesia Demographic and Health Survey 2017 (IDHS 2017). The Malaysian Population and Family Survey (MPFS) has been conducted every 10 years since 1974 by the National Population and Family Development Board (NPFDB). Meanwhile, the Demographic and Health Survey (DHS) is a nationally representative population-based survey with a large sample. Both survey data were collected through face-to-face interviews. The sample for both datasets was selected using a two-stage stratified sampling design,

with a selection of enumeration areas/blocks drawn from the census in each country (Mahmud et al., 2016; National Population and Family Planning Board et al., 2018). The MPFS-5 covered ever-married women aged 15–59, whereas the IDHS 2017 included all women aged 15–49. This study focused on 5,175 Malaysian and 34,467 Indonesian currently married women aged 15–49 years.

### Dependent Variable

The dependent variable for this study was women's autonomy in household decision-making (as a proxy for women's empowerment). The two surveys employed different items in measuring women's empowerment: eight items in MPFS-5 and three items in IDHS 2017. For standardisation purposes, the items selected for this study covered the decision-making in household expenses and visits to family members. The four items used to measure household decision-making autonomy in Malaysia include decision-making in basic family expenses, buying/building a house, buying assets, and holiday/visiting family members. In Indonesia, household decision-making was measured from large household purchases and visits to family/relatives. Each item of the household decision-making was recorded as "involved in decision-making" if women had a say in decision-making, either individually or jointly with husbands/family members, and "did not involve in decision-making" if otherwise. Women were deemed to have high empowerment if they were involved in making all the selected household decisions.

### Independent Variables

Several demographic and socio-economic variables were used in this study. These include women's age (<25, 25–29, 30–34, 35–39, 40–44, 45–49), place of residence (rural and urban), women's educational level (no education/primary, secondary, and tertiary), women's work status (not working, working), and the number of living children (no children, 1, 2, 3, 4, 5 and above).

### Data Analysis

The data were analysed using SPSS version 25.0. Cross-tabulations were presented to show the level of women's empowerment in each country. A Chi-square test (or Fisher's exact test for a 2\*2 contingency table) was used to examine the bivariate association between women's empowerment and the

independent variables. Binary logistic regression was used to investigate the association between women's empowerment and selected demographic and socio-economic variables in Malaysia and Indonesia at the multivariate level.

### RESULTS

Table 1 shows the percentage distribution of married women by educational level, work status, and household decision-making autonomy in Malaysia and Indonesia. In Malaysia, the percentage of women with tertiary education stood at 25.2%, higher than the corresponding figure in Indonesia (14.7%). In contrast, about 45% of Malaysian women worked, which was lower than that in Indonesia (57.0%). About 46% of Malaysian women participated in

Table 1

*Percentage distribution of married women by educational level, work status, and household decision-making autonomy in Malaysia and Indonesia*

Variables	Malaysia	Indonesia
	n (%)	n (%)
<b>Total</b>	5,175 (100.0)	34,467 (100.0)
<b>Educational level</b>		
No education/Primary	637 (12.3)	11,445 (33.2)
Secondary	3,232 (62.5)	17,956 (52.1)
Tertiary	1,306 (25.2)	5,066 (14.7)
<b>Work status</b>		
Not working	2,825 (54.6)	14,813 (43.0)
Working	2,350 (45.4)	19,630 (57.0)
<b>Household decision-making autonomy</b>		
Low empowerment	2,713 (54.3)	9,158 (26.6)
High empowerment	2,284 (45.7)	25,257 (73.4)

*Note.* Missing values are excluded from the calculations

all household decisions, whereas this figure was considerably higher at 73.4% among Indonesian women.

Table 2 presents the proportion of women with high empowerment by women's demographic and socio-economic characteristics. Women's age was associated with women's empowerment in both countries. The proportion of women with a say in all household decisions increased with age in Indonesia, and a similar pattern was observed in Malaysia, except for those aged 45–49 years. Meanwhile, urban women have higher levels of empowerment than rural women in household decision-making in Malaysia and Indonesia. Besides that, women's educational level was positively

associated with women's autonomy in household decision-making in both countries.

Working women tended to be more empowered in household decision-making, with 53.8% and 74.6% of the working Malaysian and Indonesian women participating in all household decisions. Meanwhile, Malaysian and Indonesian women with two to four children were more empowered in household decision-making. It is worth noting that Indonesian women with at least five children recorded the lowest proportion of high empowerment across the number of children groups, while that was reported among Malaysian women with less than two children.

Table 2

*Percentage of married women having high empowerment in Malaysia and Indonesia*

Variables	Malaysia		Indonesia	
	n	High empowerment (%)	n	High empowerment (%)
<b>Age (years)</b>		***		***
< 25	367	31.7	3,840	66.5
25–29	740	39.3	5,426	71.8
30–34	997	44.5	6,539	71.2
35–39	968	48.6	6,956	72.4
40–44	1,021	52.1	6,273	74.4
45–49	1,082	46.9	5,433	74.6
<b>Place of residence</b>		**		**
Rural	1,912	42.6	17,147	71.5
Urban	3,263	47.5	17,320	72.8
<b>Educational level</b>		***		***
No education/Primary	637	41.5	11,445	69.8
Secondary	3,232	43.4	17,956	72.4
Tertiary	1,306	53.4	5,066	78.0
<b>Work status</b>		***		***
Not working	2,825	38.9	14,813	69.1

Table 2 (Continue)

Variables	Malaysia		Indonesia	
	n	High empowerment (%)	n	High empowerment (%)
<b>Work status</b>		***		***
Working	2,350	53.8	19,630	74.6
<b>Number of living children</b>		**		**
No children	449	42.1	2,660	71.4
1	790	41.3	8,340	71.1
2	1,102	47.0	11,554	73.2
3	1,179	48.0	6,811	72.1
4	823	49.7	3,005	73.2
5 and above	832	42.8	2,097	69.2

Notes. Missing values are excluded from the calculations. Chi-square/Fisher's exact test significance: \*\*\* $p < 0.001$ , \*\* $p < 0.01$

Table 3 shows the binary logistic regression analysis of women's empowerment in Malaysia and Indonesia. The output reveals that women's age, educational level, work status, and number of living children were significantly associated with women's autonomy in household decision-making in both countries at the multivariate level.

Malaysian women aged 30 and above were more empowered in household decision-making than those below 25 years. The likelihood of women having a say in all household decisions increased with age in Indonesia. The age effect on household decision-making autonomy was stronger in Malaysia after controlling for other variables in the model. Malaysian women with tertiary educational levels (AOR = 1.446; 95% CI = 1.159, 1.788) were more empowered in

household decision-making than those who never attended school or studied until the primary level. The likelihood of women having a say in all household decisions increased with women's educational level in Indonesia. Notably, the educational effect on household decision-making autonomy was stronger in Indonesia. The odds of working women having a say in all household decisions were higher than that of their non-working counterparts in Malaysia (AOR = 1.641; 95% CI = 1.455, 1.850) and Indonesia (AOR = 1.231; 95% CI = 1.173, 1.291), and the employment effect on household decision-making autonomy was stronger in Malaysia. Indonesian women with at least five children were less likely to have a say in all household decisions than childless women (AOR = 0.808, 95% CI = 0.697, 0.937).

Table 3

*Adjusted odds ratios (AOR) and 95% confidence intervals (95% CI) from binary logistic regression analysis of women's empowerment in Malaysia and Indonesia*

Variables	Malaysia	Indonesia
<b>Age (years)</b>	***	***
<25	REF	REF
25–29	1.126 (0.849, 1.492)	1.235*** (1.127, 1.352)
30–34	1.340* (1.012, 1.774)	1.211*** (1.103, 1.329)
35–39	1.630** (1.222, 2.175)	1.321*** (1.200, 1.454)
40–44	1.962*** (1.469, 2.621)	1.501*** (1.357, 1.660)
45–49	1.634** (1.222, 2.184)	1.545*** (1.394, 1.713)
<b>Place of residence</b>		
Rural	REF	REF
Urban	1.106 (0.979, 1.248)	0.982 (0.936, 1.031)
<b>Educational level</b>	***	***
No education/Primary	REF	REF
Secondary	1.060 (0.884, 1.271)	1.210*** (1.147, 1.276)
Tertiary	1.446** (1.159, 1.788)	1.521*** (1.396, 1.657)
<b>Work status</b>	***	***
Not working	REF	REF
Working	1.641*** (1.455, 1.850)	1.231*** (1.173, 1.291)
<b>Number of living children</b>	*	**
No children	REF	REF
1	1.053 (0.822, 1.348)	0.993 (0.902, 1.094)
2	1.193 (0.940, 1.514)	1.010 (0.914, 1.116)
3	1.205 (0.944, 1.537)	0.931 (0.835, 1.039)
4	1.268 (0.976, 1.647)	0.982 (0.861, 1.119)
5 and above	0.960 (0.735, 1.253)	0.808** (0.697, 0.937)
<b>Constant</b>	0.325***	1.579***

Notes. Wald test significance: \*\*\* $p < 0.001$ , \*\* $p < 0.01$ , \* $p < 0.05$ . Values in parentheses are 95% confidence intervals.

## DISCUSSION

Under similar religious norms and belief settings, the levels of women's empowerment differed significantly between Malaysia and Indonesia and within each country. More Indonesian women had worked compared to Malaysian women, although the proportion of women who

received tertiary education was higher in Malaysia. It could be explained by the fact that Malaysian women with children would rather leave the labour force and fulfil their responsibility as a wife and mothers even if they are graduates from university and hence the lower female labour force participation rate in Malaysia (Mohd Yusoff et al., 2021).

On a different note, Gimenez-Nadal et al. (2012) suggested that self-employment gives mothers greater control over the timing of work and greater flexibility in work-life balance. As observed, a higher percentage of female workers in Indonesia were self-employed than in Malaysia (59.0% versus 28.8% in 2019) (World Bank, 2022). Consequently, Indonesian women have greater resilience in juggling the roles of workers and mothers, are more economically independent, and thus more empowered in household decision-making than Malaysian women.

This study found that educated women were more empowered in the household, and the result was consistent with past studies (Ng & Tey, 2018; Shoaib et al., 2012; Tabassum et al., 2019; Yusof, 2015). Better-educated women are more aware of their rights (Shoaib et al., 2012) with better exposure to modern gender norms. This, in turn, contributed to their empowerment within the household. Meanwhile, working women were more empowered in household decision-making. This result was similar to the past studies by Acharya et al. (2010), Lamidi (2016) and Tabassum et al. (2019). Working women can contribute to the household financially and subsequently strengthen their say in household decision-making.

Women residing in urban areas were presumed to be more empowered in household decision-making as they had greater access to facilities and job opportunities that could strengthen their financial independence (Brajesh & Shekhar,

2015). However, this study found that place of residence was not significantly associated with women's empowerment at the multivariate level. This finding was similar to the study by Pambè et al. (2014), where the place of residence was a significant variable at the bivariate level but became insignificant at the multivariate level. Urban women tend to have higher educational levels. They are more likely to join the labour force than their rural counterparts, and this explains the insignificant effect of place of residence in the multivariate context. It indicates that women will have a say in household decision-making regardless of their place of residence if provided with equal education and employment opportunities.

Women's age was significantly associated with women's autonomy in household decision-making in both countries. The level of women's empowerment increased with age. This finding was consistent with the past studies by Acharya et al. (2010) and Brajesh and Shekhar (2015). As women age, they leave their childbearing responsibilities (Acharya et al., 2010), giving them more say in the family.

In Indonesia, women with five or more children were less likely to decide on all household decisions. The finding was similar to the past study by Upadhyay et al. (2014), where the number of children was inversely related to women's empowerment. Women with more children had less time to practice their rights and authority because they spent more time on childrearing; this, in turn, caused them to be less empowered (Ali

Sheikh et al., 2016). Besides that, some past studies discovered a negative relationship between women's empowerment and fertility (Atake & Gnarkou Ali, 2019; Castro Lopes et al., 2022), indicating that empowered women tended to have lesser children due to the higher authority in deciding on fertility-related matters.

Uplifting women's status is essential for sustainable development. Gender inequality led to the inferior status of women, whereby their rights were neglected. Therefore, education is key to uplifting women's status and empowering them. Education enables women to identify their strengths and create self-awareness of their rights for a better future. In addition, educated women are more likely to participate in the labour force and be economically independent, thus improving their socio-economic status and living standards (Devaraj & Amirthavalli, 2016). The government should allocate more funds to the public education system to reduce the financial burden of the household to increase the female school enrolment rate, especially at the tertiary level. For instance, the Indonesian government may consider emulating the tertiary education loan scheme in Malaysia (provided by the National Higher Education Fund Corporation) to assist students in pursuing tertiary education. Given the substantial educational effect on women's autonomy in household decision-making in Indonesia, ensuring gender equality in accessing higher education will go a long way towards empowering women.

The government and policymakers should also promote gender equality in the workplace. A study found that women are often discriminated against in the labour market for opportunities, training, and wages (Ameratunga Kring, 2017). Working mothers faced an additional childcare burden that constrained their employment opportunities. Besides, women are often burdened with unpaid domestic and care work compared to men, restraining them from participating in the labour force (UN, 2021a). Therefore, eliminating the discrimination and stereotypes of women in the workplace is essential. The government should enforce the regulations on providing childcare services in the workplace. Given the considerable employment effect on women's autonomy in household decision-making in Malaysia, meeting the childcare needs of working mothers is necessary to facilitate more women to participate and remain in the workforce. In addition, the government should allocate funds to provide training and support for women to develop and enhance their skills to improve their competencies in the labour market.

The obstacles in achieving gender equality, such as gender discrimination in the workplace and factors impeding female labour force participation, need to be identified, and relevant strategies should be implemented to overcome these obstacles. For instance, Malaysia's National Women's Policy and Women Development Action Plan focused on improving gender equality and empowering women (Department of Women's Development, 2021). Besides

that, the Indonesian government considered aspects of gender equality and women's empowerment in the National Long-Term Development Plan (Siscawati et al., 2020). These policies have successfully reduced gender disparities in Malaysia and Indonesia. However, it is necessary to conduct a mid-term review to evaluate the effectiveness of the policies to ensure that women are not left behind.

### Strengths and Limitations

This study utilised the nationally representative sample of MPFS-5 2014 and IDHS 2017 to examine the factors associated with women's empowerment in two neighbouring countries where most population are Muslims, whereby the relevant past studies are scarce. Notwithstanding its strengths, it is essential to acknowledge a few limitations of this study. First, the measure of women's empowerment used in this study is subjected to the household-level variable, which is women's autonomy in household decision-making due to data availability. Although the two countries used slightly different items to measure women's household decision-making autonomy, the items selected in this study fall under a similar context, representing women's roles in making decisions on daily expenses and household purchases, visits to family, and relatives. Besides, only married women or women in a union were selected. In addition, the causal relationship between women's empowerment and demographic and socio-economic characteristics could not be established due to the cross-sectional nature

of this study. The relatively low female labour force participation rate in Malaysia is not further discussed due to the lack of information on its reasons. Hence, future research should be conducted to fill the gap.

### CONCLUSION

Women played a vital role in the development of a country. Therefore, their contributions to the country's growth should not be neglected. Women could be empowered and actively participate in household decision-making through improved education and employability. This study provided some insights to policymakers in considering the aspects that should be focused on in developing strategies to uplift women's status in Malaysia and Indonesia.

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