FACTORS AFFECTING STUDENTS' ACADEMIC INTEGRITY IN A PRIVATE HIGHER EDUCATION INSTITUTION (PHEI) IN MALAYSIA

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FACTORS AFFECTING STUDENTS' ACADEMIC INTEGRITY IN A PRIVATE HIGHER EDUCATION INSTITUTION (PHEI) IN MALAYSIA

By

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ABSTRACT

Factors affecting students' academic integrity in a private higher education institution (PHEI) in Malaysia

The study explores how the academic environment, culture, social factors, and student motivation influence academic integrity violations in a private higher education institution in Malaysia (PHEI). The purpose of the current study is also to investigate the impact of an academic integrity tutorial on improving students' knowledge and awareness regarding adherence to the academic honour code and policies in PHEI in Malaysia.

The study used a pre- and post- experimental survey design with a survey questionnaire, multiple-choice rating scales, and 10-point quiz tests to evaluate the learning outcomes of an academic integrity tutorial among undergraduate students at a PHEI in Malaysia. Pre-experiment and post-experiment questionnaires were designed and distributed using Microsoft Forms to participants physically in class as well as online through Microsoft Teams.

The participants of the study were randomly divided into two groups: the experimental group and the control group. During the first lecture in week 1, both the experimental group and the control group completed a pre-experiment survey to assess participants' perceptions of various forms of academic integrity violations and the factors contributing to academic integrity violations in PHEI in Malaysia. Additional classes on academic integrity—covering topics such as understanding university rules regarding academic

integrity violations (e.g., cheating, plagiarism, unauthorised collaboration, electronic cheating, and collusion), fostering positive attitudes and motivation for learning, managing social and cultural expectations, and proper referencing and citations were conducted for the treatment group. After 6 weeks, participants in this study attended a 10-point quiz test. The quiz test aimed to evaluate students' learning outcomes related to the academic honour code and policies for ethical academic behaviour.

The study confirmed a positive correlation between the academic environment, culture, social factors, and academic integrity violations in higher education. It also assessed the moderating effect of academic integrity education. Without the interaction term, the R-squared value for the academic environment, social factors, culture, and motivation was .832, indicating an 83.2% change in academic integrity violations. With the interaction term, the R-squared increased to .836, reflecting a 0.41% increase in variance explained. The results indicate the effectiveness of the tutorial in improving students' perceptions and experiences related to academic integrity. Overall, the quiz test results showed that the experimental group, which received additional instruction, scored higher than the control group, which did not receive any additional lectures.

Keywords: Academic integrity violations, higher education, academic environment, social factors, academic culture, student motivation.

DECLARATION

I hereby declare that the thesis is based on my original work except for quotations and citations, which have been duly acknowledged. I also declare that it has not been previously or concurrently submitted to any other degree at UTAR or other institutions. Furthermore, AI has been used to check minor grammar, spelling and references.

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(Md Sozon)
Date: August 16, 2025

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LIST OF ABBREVIATIONS

AC	: Academic Culture
AE	: Academic Environment
AI	: Artificial intelligence
AIE	: Academic Integrity Education
AIVS	: Academic Integrity Violations
ChatGPT	: Chat Generative Pre-Trained Transformer
FAM	: Faculty of Accountancy and Management
FBC	: Foreign University Branch Campuses
FGO	: Faculty General Office
HEI	: Higher Education Institution
ICAI	: International Centre for Academic Integrity
ICT	: Information Communication Technology
MD	: Mohammad
MOE	: Ministry of Education
MOHE	: Ministry of Higher Education
PhD	: Doctor of Philosophy
PHEI	: Private higher education institution (PHEI)
RCT	: Rational choice theory
SDGs	: Sustainable Development Goal
SDT	: Self-determination theory
SERC	: Scientific and Ethical Review Committee
SF	: Social factors
SLT	: Social learning theory
SM	: Student Motivation
SPSS	: Statistical Package for Social Sciences
UN	: United Nations
UTAR	: Universiti Tunku Abdul Rahman

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CHAPTER ONE INTRODUCTION

1.1 Research Background

Academic integrity forms the cornerstone of higher education (HE), reflecting a commitment to upholding ethical standards that foster honesty, trust, fairness, and respect within academic and research environments. These principles, which include responsibility and courage (International Centre for Academic Integrity [ICAI], 2021), are fundamental to the pursuit of genuine learning and the advancement of knowledge. Scholars like Maryon et al. (2022) have emphasised that behaviours such as unauthorised collaboration, improper attribution of ideas, and manipulation of research results can undermine the objectives of higher education. Similarly, Désiron and Petko (2023) draw attention to the widespread nature of these challenges, while Srirejeki et al. (2022) categorise such actions as efforts to gain unfair advantages in academic settings.

The global shift to online learning, particularly during the COVID-19 pandemic, has brought these concerns to the forefront. Virtual assessments have created new dynamics, allowing broader student collaboration across different locations and times, intensifying the pressure for higher grades (Manoharan & Ye, 2021). This shift has presented both opportunities and challenges, with incidents of academic integrity lapses becoming more prevalent in remote learning environments (Khan et al., 2021; Cheng et al., 2024). Research by MacLeod and Eaton (2020) highlights that over half of respondents in a study admitted to engaging in questionable practices during online assessments.

The rise of technology has undoubtedly transformed educational practices but has also given rise to new dilemmas. As tools like artificial

intelligence (AI) become more accessible, students increasingly rely on digital resources, often blurring the line between independent work and external assistance (Gefen & Arinze, 2023; Fergus et al., 2023; Ofem et al., 2025; Alwi et al., 2025). AI-enables technologies such as Generative AI (GenAI), have brought a challenging environment in which distinguishing between genuine student work and AI-assisted content remains a persistent concern for educators (Oravec, 2023). Furthermore, the widespread availability of information via the internet and digital devices has facilitated the reproduction of existing materials, raising significant concerns about originality and the importance of individual contributions. (Peytcheva-Forsyth et al., 2018). The convenience of copying, pasting, or seeking outside help during exams or assignments has reshaped how students approach academic tasks, often detracting from the focus on genuine learning and intellectual development.

As the researchers navigate these evolving challenges, it is essential to examine the broader influences on academic integrity violations in HEIs. Pressure from peers, parents, and the aspiration for strong academic achievement significantly influence student dishonest behaviour (Mustapha et al., 2017). These pressures, combined with factors like exam difficulty, low self-esteem, heavy workloads, and time management struggles, contribute to the complexity of maintaining integrity in academic pursuits (Chiam et al., 2021; Chou et al., 2024). In Malaysia, like many other nations, these concerns are not new. Studies reveal that a large number of students have engaged in actions that compromise academic fairness, raising concerns about the reputation of the education system (Singh & Jun 2024). Gaining insight into the underlying causes of these behaviours and implementing strategies to address them is

essential for safeguarding the integrity of students in HE in Malaysia and beyond.

The existing literature review indicates that academic integrity issues in Malaysian higher education institutions (HEIs) can be categorised into four main factors: the academic environment, social influences, academic culture, and student motivation.

The academic environment is a significant factor in shaping students' ethical conduct. It refers to the learning spaces and resources designed to support students in achieving their academic goals, including classrooms, facilities, technology, and institutional support. The structure, social dynamics, and availability of resources within the academic environment greatly influence students' adherence to integrity standards (Oselumese et al., 2016; Akin & Johnson, 2018).

A positive and engaging academic atmosphere promotes ethical behaviour, while a negative environment—characterised by impersonal interactions and dissatisfaction—can contribute to more frequent challenges to integrity. The rise of digital education presents both opportunities and challenges. While online platforms offer flexibility, they also increase the potential for ethical lapses, underscoring the need for strong institutional policies to encourage integrity (Dickinson & McEvoy, 2021). Clear guidelines, academic support systems, and education on ethical standards play key roles in shaping students' commitment to integrity. A well-structured academic environment, with supportive faculty and clear expectations, can help deter unethical behaviour (McClung & Gaberson, 2021).

Social influences, such as peer interactions and societal expectations, significantly impact students' academic behaviour and decisions around ethical conduct (Senko et al., 2023). Factors like competition, peer pressure, and the broader cultural context can either encourage or hinder students' adherence to integrity standards (Farahat, 2022).

In highly competitive environments, the pressure to outperform peers can lead students to justify unethical actions as necessary for success. Peer influence is critical, as students often conform to the norms of their social groups. If unethical behaviour is common and goes unaddressed, others are more likely to follow suit. Conversely, students whose peers uphold ethical standards are less likely to engage in unethical actions. Societal emphasis on academic success and high grades can further increase the temptation to cut corners (Mille et al., 2017). Addressing these social dynamics is essential to fostering ethical behaviour in educational settings.

The academic culture within an institution plays a pivotal role in shaping students' views on integrity. Academic culture encompasses the shared values, practices, and norms that influence students' decisions regarding ethical behaviour (Sadiq, 2024; Barani et al., 2025). When ethical standards are not emphasised or when lapses are ignored, the likelihood of challenges to integrity increases.

If ethical standards are not actively promoted or upheld, students may feel less motivated to adhere to them (Zhao et al., 2022). The institutional stance on academic integrity—whether it is emphasised or overlooked—can either foster a culture of accountability or inadvertently encourage unethical behaviour. Key factors include perceived peer behaviour, cultural attitudes

towards integrity, and individual traits such as self-control. Students with lower self-control or those from cultures that take a more lenient view of ethical lapses may be more likely to breach integrity standards (Błachnio et al., 2022). Interventions to address these issues should focus on enhancing the ethical climate, improving moral reasoning, and mitigating peer influences.

Students' motivation is another critical factor that influences their commitment to ethical behaviour. Motivation, which drives individuals toward specific goals, can be shaped by personal desires, values, and external incentives (Srirejeki et al., 2022). It can be intrinsic, stemming from personal satisfaction or interest, or extrinsic, driven by rewards such as grades, recognition, or other incentives.

For students, motivation impacts their engagement and commitment to their academic work. Intrinsic motivation, which arises from a genuine interest in learning, supports academic integrity by focusing on the learning process rather than just the outcomes (Saeed & Zyngier, 2012). Conversely, low intrinsic motivation may lead to more frequent ethical lapses, including plagiarism or cheating (Krou et al., 2019). While extrinsic motivation can improve performance, it may also lead to ethical challenges, especially in competitive environments. A balanced approach that fosters intrinsic motivation while managing external pressures is key to promoting ethical behaviour in academic settings.

The consequences of academic integrity violations extend beyond individuals, impacting institutions, societies, educators, and learners worldwide. Freeman et al. (2020) highlighted that qualifications acquired without genuine learning can result in job inefficiency or unemployment. Furthermore, students

who engage in academic dishonesty may carry this behaviour into their professional careers, fostering corporate corruption and unethical practices (Furutan, 2018). This breach also risks normalizing unethical conduct among educators and future professionals (Ayala-Enríquez & Guerrero, 2024). The gap in the study, i.e., previous studies and practice mostly, emphasised punishment, and the role of education in integrity is not explored extensively. Therefore, it is essential to focus on detecting and preventing academic integrity violations to uphold educational standards and nurture ethically responsible graduates. This approach could facilitate for the creation of academic integrity honor codes and the design of suitable educational programmes to strengthen students' commitment to academic honesty. Recognising the significance of higher education in Malaysia, current research aims to categorize the contributing elements that lead to students' academic integrity violations in a private higher education institution (PHEIs) in Malaysia.

1.2 Problem Statement

In today's world, academic integrity is a key component of the learning process (Parnther, 2020) and is fundamental to both science and education (Vasylkevych & Lomak, 2020). Quality higher education is essential for human capital development (Saadah et al., 2020). Additionally, the necessity for educational efforts that promote academic integrity in institutions has been extensively studied and documented by researchers worldwide (Pettyjohn et al., 2020; Bertram Gallant & Rettinger, 2022; Cheng et al., 2021). The connection between academic dishonesty, ethical attitudes, and the ethical climate is crucial, as education plays a fundamental role in cultivating moral and ethical behaviour both within and beyond the classroom. In this regard, higher education institutions have a duty to reinforce students' moral compass (Bleazby, 2020) while guiding them towards academic success and instilling essential life values. Furthermore, these institutions must uphold excellence in teaching standards and actively encourage a culture of academic integrity within the student body.

The growing occurrence of plagiarism, cheating, and other unethical academic practices among higher education students, particularly during the COVID-19 pandemic, is widely recognised. The shift to virtual teaching and assessment has magnified these issues (Goff et al., 2020; Ullah & Khan, 2025). News outlets have reported a significant rise in cases where academic integrity is compromised at colleges and universities across the nation. Research by Lancaster and Cotarlan (2021) showed a 196.25% increase in test-related questions related to cheating during a five-month period from 2019 to 2020, suggesting a correlation between heightened reporting and increased instances

of misconduct. Further studies have provided evidence that students were more likely to resort to unauthorised resources, collaboration, and contract cheating during the pandemic compared to pre-COVID times (Maryon et al., 2022). In addition to plagiarism and cheating, issues such as collusion, electronic cheating, and inappropriate use of information technology and artificial intelligence tools have become more frequent in higher education institutions (Peytcheva-Forsyth et al., 2018). The rise of a "copy-paste" culture enabled by the internet limits originality and runs counter to the academic objectives that are supported by disciplined learning practices. Unethical behaviours aimed at gaining an unfair advantage in assessments (Ives et al., 2017) negatively impact both the educational system and the overall learning process. Furthermore, when students engage in practices that undermine academic integrity, it not only damages the reputation of the institution but also affects the quality and legitimacy of its academic programs, global accreditation, and students' moral development.

In Malaysia, similar patterns emerged when HEIs transitioned to online teaching and assessments during the COVID-19 pandemic. Many students have exploited advanced digital technologies, taking creative steps that compromise academic integrity. Surveys reveal that 57.4% of students at major public universities in Malaysia admitted to engaging in unethical academic behaviour at least once (Mustapha et al., 2017). Another study found that 52.5% of students in Malaysian higher education institutions reported similar conduct (Tiong et al., 2018). Moreover, 65.3% of students acknowledged cheating during exams, quizzes, and class assessments (Yussof & Ismail, 2018). In one study, 64.1% of respondents from a public university in Malaysia admitted to

submitting assignments that compiled online resources without proper citation (Rusdi et al., 2019).

An additional concern is the growing trend of students purchasing assignments, theses, and presentations for relatively small sums of money, avoiding the effort required to learn. Researchers have highlighted that this undermines both students' academic integrity and social values (Chiam et al., 2021), further eroding the reputation of institutions and the credibility of degrees and accreditation (Thomas, 2017). Such students, who complete their education by cutting corners, may struggle to prove their academic qualifications in employment assessments, ultimately devaluing their degrees.

A lack of proper learning also builds a false foundation, contributing to job inefficiency or unemployment. Moreover, when students compromise academic integrity, it could jeopardise the Malaysian government's goal of increasing access to education and boosting enrolment to 2.5 million students by 2025, alongside improving graduate employability from 75% to over 80% (Shan et al., 2016).

Students who engage in unethical practices in educational institutions are likely to carry these behaviours into their professional lives. Such practices can fuel future corporate corruption and scandals (Khalid et al., 2020). Moreover, compromised academic integrity could inspire teachers, future students, and researchers to engage in similar impermissible behaviours. This erosion of standards may raise concerns about the Malaysian education system among foreign students, employers, parents, and other stakeholders.

Educational institutions have established protocols to address issues related to academic integrity in a legally binding manner. However, institutional

responses to breaches of academic integrity vary significantly. The literature on promoting academic honour is extensive, covering a wide array of programs housed within various academic and student affairs departments. These interventions are generally classified into categories such as the honour code and modified honour code policies, administrative processes, student-led initiatives, technological advancements, culturally responsive education, and faculty-led responses (Singh & Bennington, 2012; Harris et al., 2020). These responses often have positive developmental effects, including ethical development and the introduction of values-based courses, faculty training programs, grade notations, honour councils, integrity campaigns, and specialised academic integrity training for international students.

In reality, many incidents of compromised academic integrity remain unaddressed or unreported, which leads students to mistakenly believe that such behaviour is acceptable. Moreover, in the digital age, existing policies and systems in educational institutions struggle to fully support and promote a culture of academic integrity (Hofmann et al., 2020). As a result, research into academic integrity education continues to explore interventions that assist administrators in cultivating an academic environment that discourages misconduct while fostering integrity. The most effective approaches combine student development, cultural sensitivity, technological proficiency, and social persuasion. Despite changes in institutional perspectives, the number of students violating academic integrity policies reveals a persistent lack of mutual understanding of these issues. Beyond disciplinary actions, there are wider institutional consequences associated with such breaches. Students who uphold academic standards are also affected; for example, grade inflation caused by

unethical behaviour can distort the grading curve, disproportionately disadvantaging honest students. Furthermore, perceptions of compromised academic integrity can diminish the value of degrees and tarnish academic programs. These outcomes stem from varying levels of institutional engagement in and support for academic integrity education (Volpe et al., 2008).

Research highlights the importance of coordinated and multifaceted educational efforts to promote a culture of integrity among students. As campuses grow increasingly diverse and technologically advanced, opportunities to expand academic integrity education beyond traditional methods arise.

A comprehensive review of the literature examines the motivations behind breaches of academic integrity, the ways in which students engage in these behaviours, and the strategies for fostering a culture of integrity. Studies suggest that the majority of students have either participated in or witnessed breaches of academic integrity. Prevention strategies emphasise academic integrity initiatives focused on education and community building. Therefore, addressing these violations is critical, as they impact various stakeholders. While past studies have proposed solutions, no definitive strategy has emerged as the most effective in the context of higher education institutions in Malaysia (Chiam et al., 2021). Thus, a study investigating the factors influencing students' academic integrity in Malaysian institutions may provide valuable insights to resolve the current challenges.

1.3 Research Questions

To accomplish the aforementioned objectives, this study seeks to answer the following research questions:

1. What is the relationship between the academic environment, culture, social factors, and student motivation on academic integrity violations?
2. What is the moderating effect of educational academic integrity on the factors influencing academic integrity, such as the academic environment, social factors, academic culture, and student motivation as well as academic integrity violations in PHEI in Malaysia?
3. What impact does the Academic Integrity Tutorial have on students' adherence to academic integrity standards in Malaysian HEIs compared to those who did not receive the tutorial?

1.4 Research Objectives

This research study investigates the factors that influence academic integrity violations in Private Higher Education Institutions (PHEIs) in Malaysia. Specifically, the current study

1. To investigate the relationship between the academic environment, social factors, academic culture, and student motivation in academic integrity violations.
2. To investigate the moderating effect of educational academic integrity on the factors influencing academic integrity, such as the academic environment, social factors, academic culture, and student motivation as well as academic integrity violations in PHEI in Malaysia.

3. To investigate the impact academic integrity tutorials, have on students' adherence to academic integrity standards in Malaysian private PHEI compared to those who did not receive the tutorial.

1.5 Contribution of the Study

Technology has grown substantially and transformed the educational landscape over the years. Advances in AI tools, in particular, have made it easier to duplicate content and collaborate without authorisation (Oravec, 2023). While technology enhances learning, it also presents challenges for institutions aiming to maintain academic integrity in a digital context. The rise of AI-driven tools, such as ChatGPT, has raised ethical concerns (Susnjak, 2022), compromised user judgment (Krügel et al., 2023), and even encouraged plagiarism through high-tech means (Gefen & Arinze, 2023).

Given these advancements, this research aims to explore the factors that lead students to compromise academic integrity in the modern digital age. The evolution of AI, which is expected to further advance in the future (Tomlinson et al., 2023), may result in more personalised educational content, potentially disrupting students' drive for knowledge acquisition and affecting the learning environments in higher education institutions. Furthermore, such advancements may reduce students' motivation to invest time and effort in honing their skills, thus hindering their personal and academic growth.

It is becoming increasingly evident that AI tools, such as ChatGPT, present a considerable new challenge to HEIs (Williams & Fadda, 2023). As a result, researching academic integrity is crucial to upholding high standards in teaching and learning, especially in an era shaped by digital technology. This

study aims to explore in depth the factors that drive students to commit academic integrity violations—such as cheating, plagiarism, collusion, and unauthorised external assistance—with a particular focus on higher education institutions in Malaysia.

Additionally, this research investigates the impact of academic integrity education programs in raising student awareness about the consequences of compromising academic integrity. The primary aim is not only to provide fresh insights into academic integrity issues among higher education students in Malaysia but also to offer theoretical and practical contributions. Ultimately, the study will assist in designing effective academic integrity education programs, equipping students with the knowledge and ethical foundation needed to confront related challenges, particularly in a digitally driven era.

1.5.1 Theoretical Contribution of the Study

This study contributes valuable insights to the understanding of academic integrity within Malaysian higher education. While previous studies have utilised various theoretical perspectives to examine academic misconduct across different educational contexts, this research focuses on four specific frameworks: self-determination theory, social learning theory, deterrence theory, and rational choice theory. Together, these perspectives illuminate the motivations behind students' decisions to compromise academic integrity, providing insight into why some may prioritise immediate gains over the intrinsic value of learning for both personal growth and future professional success.

This study provides a multi-theoretical perspective on academic integrity, enhancing understanding and fostering theoretical advancements in the field. By integrating self-determination theory, social learning theory, deterrence theory, and rational choice theory, the research enriches existing theories by situating them within the specific socio-cultural and educational context of Malaysian higher education. This approach not only contextualises these theories but also clarifies how intrinsic motivation, social modelling, deterrent measures, and rational decision-making interact to influence students' ethical behaviour. Moreover, this study challenges the often narrow, single-theory approach by demonstrating how these theories can complement one another, offering a more comprehensive perspective on academic integrity. For example, SDT and SLT can illuminate internal and social motivations for maintaining integrity, while deterrence theory and RCT address external pressures and cost-benefit analyses. This theoretical integration can inspire new models that encompass both personal and contextual influences, encouraging future research to explore integrity through a more integrated, multidimensional framework.

In addition, the study focuses on the role of academic integrity education programs in enhancing students' understanding of proper academic practices and institutional policies. Using experimental longitudinal data across different subjects, and participant groups, the research aims to track changes in students' perceptions of academic integrity in diverse educational and cultural contexts. The findings are expected to offer fresh perspectives and valuable insights, helping researchers and educators better tailor their efforts to foster academic integrity and create more supportive learning environments.

This contribution is particularly important given the limited research that explores academic integrity among students and the moderating effects of various theoretical perspectives on academic integrity challenges. To the best of the researcher's knowledge, no prior experimental studies in Malaysia's higher education context have utlised these theories. Therefore, this study aims to enrich the theoretical landscape and provide practical solutions for promoting academic integrity in higher educational settings.

1.5.2 The Study's Practical Contribution

This research on academic integrity aims to address the challenges related to maintaining student integrity and promoting ethical behaviour in educational settings. It offers valuable insights for educational institutions, policymakers, and professionals in the education industry. The following paragraphs highlight some practical contributions to this study.

Honour Codes and Integrity Policies: The nature and complexity of student behaviour regarding academic integrity have evolved due to technological advancements. This research provides evidence-based recommendations for educators and other key stakeholders to revise and adapt academic integrity policies within educational institutions, addressing students' inappropriate conduct in a more effective manner.

Development of an Academic Integrity Educational Program: This study provides a framework for creating educational programs focused on academic integrity, aimed at enhancing students' understanding of ethical expectations within academic environments. It also educates students on the potential

consequences of not adhering to these expectations, both personally and professionally.

Traditionally, academic integrity policies have emphasised punitive measures, such as expulsion, based on the seriousness of the offense. However, there has been less focus on educating students about the consequences of these actions. This research demonstrates that academic integrity programs not only improve students' understanding of the implications of misconduct but also help prepare them to be more ethical and responsible in their academic pursuits.

The findings of this study support the development of educational tools and materials aimed at teaching students the significance of ethical conduct. These resources help students understand the value of honesty and the consequences of unethical behaviour. Furthermore, the study offers practical recommendations for faculty development programmes, equipping educators with the knowledge and skills necessary to identify and address integrity-related issues in their classrooms.

Furthermore, this research informs the development of more efficient plagiarism detection tools, enabling instructors to better identify instances of academic misconduct. It also aids educators in designing assignments and assessments that foster critical thinking, originality, and ethical research practices, promoting a focus on learning rather than dishonest behaviour.

This study explores the factors contributing to integrity violations and highlights the role of educational programs in mitigating these issues. It also offers practical strategies and evidence-based recommendations for institutions to cultivate a culture of honesty, deter academic misconduct, and support students in fostering ethical behaviour throughout their academic journey.

These findings will help institutions uphold the integrity and credibility of their educational programs.

This research contributes to the ongoing discussion of using academic integrity tutorials to enhance students' adherence to ethical standards. By assessing the impact of such tutorials, the study seeks to offer practical strategies that educators can integrate into their teaching methods. The findings are expected to inform curriculum developers and policymakers, supporting the creation of comprehensive academic integrity programs in higher education.

In summary, this research offers numerous practical contributions to educational institutions, policymakers, and educators, providing valuable tools and insights for addressing challenges related to ethical behaviour in academic settings. It presents new perspectives on shaping integrity policies and designing educational programs that prevent academic misconduct and encourage ethical academic practices among students.

1.5 Definition of Key Terms

This section defines and discusses the key terms, concepts, and vocabulary used throughout this thesis. The main purpose of defining these terms is to ensure that both the author and readers have a shared understanding, minimizing ambiguity and providing a unified framework for the research. The key terms are as follows:

Academic Integrity – Academic integrity involves adhering to the values of honesty, trust, fairness, respect, and responsibility in learning, teaching, and research. According to Brigue and Orlu (2023), academic integrity

is the commitment to uphold fundamental principles such as honesty, trust, fairness, respect, responsibility, and courage.

Academic Integrity Violations (AIVs) – AIVs refer to unethical behaviours by students, which may include one or more of the following: i) Cheating, ii) Seeking unauthorised assistance, iii) Plagiarism iv) Misusing technology for assessments, and v) Collusion.

Cheating **–** Cheating refers to the use of unauthorised resources, information, or methods to complete academic tasks. It encompasses any dishonest act intended to secure an unfair advantage in assessments or examinations. This may include copying another student's work without consent, using forbidden materials, or engaging in deceptive practices (Valizadeh, 2022).

Plagiarism **–** Plagiarism is the use of someone else's thoughts, words, phrases, or facts without attribution in situations where authorship is expected. It involves presenting another individual's intellectual work as one's own (Thomas, 2020; Chou & Jui-An Pan, 2020).

Seeking Unauthorised Assistance **–** As defined by Riley and Brown in 1996, this refers to any unethical action by students such as reviewing an exam paper before submission, obtaining or sharing exam content, or using external resources to complete assignments.

Misuse of Technology in Assessments – This refers to students using technology to gain unauthorised assistance during assessments (Iaaly et al., 2024). For instance, using a cell phone during a test or quiz to access information.

Collusion **–** Collusion is collaboration with others on individual assignments or projects when such cooperation is prohibited. It occurs when individuals work together inappropriately to produce work meant to be completed independently (Crook & Nixon, 2019).

Motivation **–** Motivation, derived from the word "motive," refers to the needs, desires, or drives within individuals that stimulate them to take action. It is defined as a psychological process influencing an individual's mindset and behaviour (Khalid et al., 2020).

Copyright **–** Copyright is a legal framework that grants exclusive rights to creators, protecting the expression of ideas or information. As an intellectual property right, it enables the original creator to control the reproduction and distribution of their work for a specified period (Tella & Oyeyemi, 2017).

Academic Culture (AC) – Academic culture refers to the mental, social, emotional, and physical environment that shapes student learning experiences (Ambrose et al., 2021).

Academic Environment (AE) **–** The academic environment refers to the norms and regulations that shape the overall climate within an educational institution. It also synonymously used as a learning environment.

1.6 Summary of the chapter

This chapter establishes the foundation for the research and outlines the direction of the study. The background and problem statement demonstrate the pressing need to explore the factors influencing adherence to academic principles in higher education institutions in Malaysia. Chapter two offers a

concise overview of the literature review, presenting case studies, definitions, and relevant explanations for each field.

CHAPTER TWO LITERATURE REVIEW

2.1 Introduction

This chapter critically examines the existing research on academic integrity issues and endeavors to pinpoint the primary patterns, contributing factors, and evolving nature of challenges to academic integrity in a PHEI in Malaysia. Moreover, this research also explores the impact these integrity breaches have on the educational experience, the institution's reputation, and the broader academic community in Malaysia.

A review of the literature reveals that lapses in academic integrity are not isolated incidents but are the result of complex socio-cultural, technological, and institutional variables. The advancement of technology and easy access to information have created both opportunities and challenges in upholding academic standards. In addition, the pressure to succeed in a competitive learning environment, combined with changing perceptions of success, has led some students to engage in unethical academic behaviours. Apart from investigating the root causes, this study also explores various techniques and interventions used by educational institutions to address these challenges. The results show that higher education institutions globally struggle to respond to and prevent breaches of academic integrity, using strategies such as awareness campaigns, policy development, and the implementation of plagiarism detection

technology. However, the effectiveness of these strategies remains debatable and requires further investigation.

This research focuses on identifying academic integrity challenges and highlight the importance of a proactive approach to addressing the issue. In short, this review aims to contribute to the existing body of knowledge about academic integrity and ensure that knowledge is pursued ethically in higher education institutions. It does so by summarizing available data, identifying research gaps, and offering practical recommendations for addressing these integrity challenges in Malaysia.

2.2 Underpinning Theories

A theory is a logical basis upon which situations are analyzed to reach valid conclusions. Corley and Gioa (2011) defined theory as a conceptual statement explaining the phenomenon, how it came to be, and why it exists.

The main objective behind a theory is to explain the relationships among various phenomena and to predict a single phenomenon's characteristics, which help understand another phenomenon. In this research, the theory serves as a framework to understand, predict, and explain the studied phenomenon (TS & Tamilarasan 2022). In every study, the theoretical framework provides a strong foundation for generating fresh ideas and knowledge, allowing researchers to validate findings and draw logical conclusions. Breaches of academic integrity represent conscious behaviours by students in higher education institutions for a variety of reasons. Therefore, to investigate these behaviours, criminological theories are often applied to understand and explain why individuals engage in unethical actions. These theories reflect various elements influencing decision-

making processes in those who engage in such activities. They provide conceptual frameworks that allow academics to analyze aspects of deviance in society, including within educational institutions. Criminological theories are used across various fields, including sociology, biology, and psychology, to explore the causes and nature of unethical behaviours.

Over the years, criminal justice research has relied heavily on theories such as social learning theory (SLT) and rational choice theory (RCT) to predict unethical human behaviours. Previous studies have demonstrated that criminological concepts can offer valuable insights into academic integrity issues (Hoeben & Thomas, 2019). In the context of this study, criminological theories, including SLT and RCT theory, are examined in relation to academic integrity challenges in higher education institutions. The components of these theories are particularly useful in explaining the behaviours behind academic integrity breaches among students. Additionally, self-determination theory is employed to explore the motivational aspects of students who engage in unethical academic practices in Malaysian higher education institutions.

This study employs SLT, rational choice theory, and self-determination theory to investigate the factors that influence academic integrity among students at a Malaysian private higher education institution. Social learning theory is significant because it emphasises how students model the behaviour of their peers and teachers, so forming their ethical standards. Rational choice theory looks into the cost-benefit analysis that students employ while deciding whether to engage in or avoid academic dishonesty. Finally, self-determination theory investigates intrinsic motivation, specifically how students' values and

personal development goals influence their commitment to academic honesty. These theories are explained in the following paragraphs, aligning with the context of the current study.

2.2.1 Social Learning Theory

Learning is a process characterised by complexity and continuity. Individuals approach learning through different methods, based on their preferences and needs, and various psychological theories have been developed to illuminate the reasons and processes behind human learning. One such theory is SLT, introduced by psychologist Albert Bandura in 1977. SLT proposes that individuals acquire social behaviours by observing, imitating, and modelling the actions of others (McLeod, 2016). This theory connects behaviourist and cognitive learning approaches, incorporating attention, memory, and motivation as key components of the learning process. SLT has been widely applied to explain how individuals learn through observation, guided by three main principles. The first principle posits that an individual can learn behaviour by observing others for example, a child might observe and imitate the behaviour of those around them, successfully incorporating it into their own actions.

Many studies investigating academic integrity challenges in higher education employ Social Learning Theory. For instance, Chiang et al. (2022) validated the theory in their research, finding that low self-control can be a factor influencing lapses in academic integrity. Similarly, Surahman and Wang (2022) identified rationalization, pressure, and lack of academic ability as significant factors contributing to students' unethical academic behaviours. Moreover, Al Serhan et al. (2022) found a positive relationship between

pressure to maintain scholarships and past academic awards and challenges to academic integrity, while Hendy (2021) highlighted the influence of perceived peer behaviour and cultural differences on students' actions.

In an extended study, Alleyne and Phillips applied the theory of planned behaviour (TPB) and identified attitudes, perceived behavioural control, and moral obligations as key factors influencing students' intentions to engage in unethical academic practices. In the context of e-learning, Bylieva et al. (2020) emphasised preventive measures against behaviours such as cheating and plagiarism, and Bezgodova and Miklyaeva (2021) underlined key factors influencing digital academic integrity challenges, such as students' attitudes and institutional policies. Adzima (2021) stressed the need for further research and the potential impact of education on academic integrity. In Khalid et al.'s (2020) study, SLT was used to explore how peer behaviour influences academic integrity, showing that individuals generally go through four phases—attention, retention, reproduction, and motivation—to successfully imitate behaviour, and that peer behaviour is closely related to challenges in maintaining academic integrity.

Human behaviour has been extensively studied through the lens of Social Learning Theory. The origins of this theory date back to 1977 when Ronald Akers expanded upon Edwin Sutherland's differential association theory. SLT integrates the core principles of differential association theory while providing a more comprehensive understanding of the learning process.

Akers (2017) argued that unethical behaviour is learned through various associations, imitations, definitions, and reinforcements. Specifically, differential associations refer to value orientations and the way social

interactions shape specific behaviours. According to Akers (2017), social interactions significantly affect both learning and unethical activities, and personal, intimate, or vicarious connections can lead to positive or negative perceptions of unethical behaviour. Definitions refer to individuals' attitudes toward specific behaviours, with some perceiving unethical actions positively, while others avoid them based on negative interpretations.

Akers (2017) further explained that imitation involves modeling others' behaviour, allowing similar behaviours to be adopted through observation. Lastly, differential reinforcement refers to the expected costs and benefits associated with a particular action. These outcomes, often social in nature, influence individuals' responses to certain behaviours (Akers, 2017). Empirical research has demonstrated favourable support for SLT. After developing their theory, Akers et al. (2017) conducted empirical tests that confirmed the theory's explanatory power, particularly in relation to adolescent problem behaviours.

Akers and Lee (1996) identified four key social learning elements that significantly influenced alcohol consumption and marijuana use among students, with explained difference ranges of 55% and 68%, respectively. Social learning variables have consistently proven relevant in student populations. Over time, robust empirical findings have continued to validate the theory. Their analysis of 21 empirical studies found that social learning variables remained significant even when control variables were present.

This study further examines the support for the theory in later works, particularly in Pratt et al.'s (2010) study. In comparison to previous research, the authors conducted a comprehensive review of the social learning theory, as proposed by Akers. They identified and analyzed 133 studies, revealing positive

results. While all four components of the theory were supported, the study highlighted variations in their relationships and definitions. Each component is statistically linked to individual behaviour, though they exhibit different degrees of association (Pratt et al., 2010). For example, imitation and differential reinforcement showed weaker effects compared to the other two factors, with meta-analysis findings aligning with research focused on academic misconduct.

Additionally, SLT has been employed as a framework in studies on academic fraud, with its connection to academic misconduct first introduced in pioneering research (McCabe et al., 2012).

Research has shown that peer approval is a crucial factor influencing students' cheating behaviours in colleges. In contexts where such behaviours are widely disapproved, university students are less likely to engage in them. Moreover, differential association is particularly significant in analyzing peer relationships. Through interactions with peers who engage in dishonest practices, students may develop justifications for similar behaviours. Regarding the principle of differential amplification, students may be drawn to successful cheating behaviours among their peers (McCabe et al., 2012), learning the methods of cheating through these relationships. Long-term studies examining the influence of peers on student behaviours related to cheating appear promising.

Albert Bandura's social learning theory posits that observational learning, imitation, and modeling play a critical role in behavioural development. These concepts are used to investigate how individuals learn and adopt dishonest behaviours through social interactions, modeling, and environmental influences within Malaysian higher education institutions. Social

factors such as norms and trust are pivotal in these educational settings, as institutions admit students from diverse social and economic backgrounds. Each student is a unique individual with distinct values, attitudes, and belief systems regarding integrity violations. This study adopts social learning theory to explore the roles of social norms and trust in integrity violations within Malaysian higher education institutions. Based on the theory, students observe their peers' behaviours and subsequently imitate these behaviours when considering integrity. Thus, the theory serves to explain the influence of social factors on integrity violations in higher education institutions in Malaysia.

2.2.2 Self-determination theory

The process of initiating, guiding, and maintaining human behaviour centred on goals is known as motivation. It is linked to intention, activation, and persistence; a motivated individual is compelled to act (Ryan & Deci, 2000). Numerous theories have been proposed regarding motivation and human behaviour, one of which is the SDT introduced by Deci and Ryan in 1980 and further developed in subsequent research (Thomas et al., 2017). SDT consists of five mini-theories, each addressing distinct motivational aspects associated with human behaviour. This framework has been validated as a robust tool for analyzing motivation across various fields, including education (Khalid et al., 2020), and predicting human performance and psychological health outcomes. Motivation is typically categorized into two major types: extrinsic and intrinsic.

Intrinsic motivation refers to engaging in behaviours to complete an activity for its own sake. Individuals who are intrinsically motivated pursue actions driven by personal goals and enjoyment. According to SDT, three

fundamental psychological needs must be met for intrinsic motivation to flourish: autonomy, competence, and relatedness. When these needs are satisfied, individuals are more likely to engage deeply in their activities, seeking novelty and challenges to enhance their capabilities, social recognition, and personal fulfilment. In contrast, extrinsic motivation involves performing behaviours for external rewards, such as recognition, status, approval, or high grades. Those who are extrinsically motivated are influenced by external factors and may not prioritise personal growth or learning.

In the literature, SDT has been extensively utlised to explore students' motivations concerning integrity issues in higher education. For instance, Luarn et al. (2023) highlighted that intrinsic learning motivation significantly contributes to academic achievement and can be enhanced through gamification, with social performance and immersive characteristics bolstering its influence. Additionally, Miguel et al. (2023) found that motivation, resilience, perceived competence, and classroom environment significantly affect student engagement. Asgher et al. (2023) examined social influences, revealing that competition, social rejection, and pressure can impact students' integrity-related choices. Bureau et al. (2021) demonstrated that students' self-motivation is influenced by the satisfaction of their psychological needs, correlating with higher academic well-being and achievement. Moreover, Dzakadzie (2021) emphasised the role of moral obligation in shaping intentions regarding integrity issues, suggesting that a stronger sense of moral duty may reduce dishonest behaviour.

Furthermore, Hendy et al. (2021) and Blachnio et al. (2021) underscored the impact of cultural and social factors on integrity, identifying peer behaviour

and cultural differences as significant predictors. Van Osch et al. (2020) examined how pressure affects self-esteem, personal values, and the complexities of cultural integrity in relation to integrity challenges. Khalid et al. (2020) applied SDT to investigate students' motivations regarding integrity, indicating that students may be driven by intrinsic or extrinsic factors.

According to Kanat-Maymon (2015), students may resort to integrity violations for rewards, and dissatisfaction with fundamental psychological needs (autonomy, competence, and relatedness) can lead to such actions. Supporting this view, Masood and Mazahir (2015) identified a negative correlation between extraversion, conscientiousness, openness to experience, self-control, and integrity issues. Murdock and Anderman (2006) also highlighted how self-efficacy, goal orientation, expectancy, and intrinsic motivation persuade the chances of integrity violations among learners. Thomas (2017) found that intrinsically motivated learners are less likely to engage in dishonest behaviour. Similarly, intrinsic motivation stems from fulfilling basic psychological needs; individuals may perform certain behaviours to achieve specific outcomes, even without intrinsic motivation.

These studies illustrate the interplay between personal and environmental factors affecting students' motivations toward integrity-related behaviours, highlighting several key influences. In Malaysia's higher education context, the growth of institutions continues annually, attracting local and international students across various programs and certifications. The diverse social and economic backgrounds of these students contribute to differing motivations, which may lead to violations of academic codes of conduct.

Therefore, understanding these motivational aspects is crucial for ensuring quality higher education and curbing dishonest behaviours.

In this study, SDT is utlised to explain the motivations and factors influencing integrity-related behaviours among students in Malaysia's higher education institutions. The theory helps examine how different forms of motivation affect students' choices to engage in integrity violations, which may correlate with their satisfaction with psychological needs. This study further explores the relationship between intrinsic and extrinsic motivations and integrity, positing that intrinsically motivated students may be less inclined to violate standards, while those driven by extrinsic factors may do so for rewards. By illuminating the underlying psychological needs and motivations of students, this research aims to develop strategies to uphold integrity in higher education and prevent dishonest behaviours. Ultimately, this study adopts SDT to analyze the roles of intrinsic and extrinsic motivations in understanding the reasons behind integrity violations among students in Malaysia’s higher education institutions.

2.2.3 Rational Choice Theory

Research on academic dishonesty has frequently drawn on social learning theory, deterrence theory, and related frameworks. However, RCT is considered the most appropriate theoretical foundation for this study. This theory examines three key factors influencing student cheating: the likelihood of apprehension, the likelihood of formal reporting, and peer influences.

Firstly, the likelihood of apprehension acts as a subtle deterrent, distinct from the certainty of punishment. In deterrence theory, the fear of punishment

is a central concept; however, rational choice theory suggests that the perceived certainty of being caught has a stronger deterrent effect (Nagin et al., 2018). Therefore, a student's decision to uphold academic integrity is more influenced by the risk of detection than by the severity of potential sanctions.

This component of academic integrity violations may also be affected by the perceived likelihood of formal reporting, which can be similar to the severity of punishment. Low levels of formal referrals by instructors may reduce the perceived risk of cheating, thus encouraging dishonest behaviour. Finally, peer influences are critical in studies of AIVS. Research has shown that peer relationships can promote incidents of cheating among university students (Ajit et al., 2024). While these factors can be examined through the lenses of deterrence and social learning theories, rational choice theory offers a more comprehensive approach within higher education institutions.

Rational choice theory aligns with deterrence theory, as it is based on the principle of human rationality—where human behaviours are considered purposeful and reflect rational decision-making. In criminological research, this topic was encapsulated in Cornish and Clarke's in 1986, which posits that individuals often weigh the perceived costs and benefits of their actions. Criminals typically seek specific benefits through illegal activities; the likelihood of misconduct increases when the benefits outweigh the potential costs. This perspective extends beyond the principles of deterrence, shifting the focus from mere punishment threats to perceived gains and losses.

Before its establishment, rational choice theory can be traced back to Ronald Clarke's work in 1980, which emphasised the role of situational context in illegal activities. It argues that certain environments create opportunities for

illicit behaviours. Moreover, modifying these environments can reduce misconduct; for instance, when physical structures enhance crime detection, potential offenders are less likely to commit crimes, guiding rational choice principles in situational crime prevention (Newman & Clarke, 2016).

The criminal justice system has been significantly influenced by situational crime prevention, which seeks to address environmental conditions that promote offenses. Over time, situational crime prevention has been integrated into various criminal justice initiatives. For example, increased street lighting has been shown to reduce neighborhood crime rates. Enhanced lighting improves visibility, heightening awareness and detection of criminal activity. A rational individual may find committing crimes in well-lit areas less appealing (Davies & Farrington, 2020). Similarly, college instructors can adopt measures to increase cheating visibility, thereby elevating the risk of detection, which can deter students from dishonest behaviour.

Research indicates that the likelihood of apprehension significantly influences human behaviour more than the certainty of punishment (Nagin et al., 2018). The rational choice theory explains this principle. Despite apprehension being a deterrent element, literature suggests that individuals often assess the cost-benefit of their actions concerning detection risk before proceeding. Situational factors can notably impact individual reasoning and decision-making, as argued by Clarke and Cornish in their study in 1986. Offenders prefer to avoid detection, and when they focus on a target, they may be more inclined to act in environments that allow for easy escape after committing misconduct. Therefore, academic misconduct reduction should be

viewed through the lens of higher apprehension risk, with the possibility of apprehension playing a crucial role in academic dishonesty studies.

Empirical findings demonstrate that student cheating rates are highly affected by detection risk (Freiburger et al., 2017). When the likelihood of instructor detection is high, the probability of academic integrity breaches decreases. Shadmanfaat et al (2024) found that cheating rates among college students are lower when the risk of detection is higher, a more significant influence than the threat of school sanctions. Furthermore, Thomas et al. (2017) noted that cheating behaviours often becomes habitual among college students, particularly when individuals succeed in previous attempts, which can bolster confidence in future dishonest actions. Therefore, detection and rational choice principles are relevant for analyzing cheating, a view supported by recent studies (Freiburger et al., 2017).

Instructors in colleges can significantly influence student behaviours by modifying classroom environments. Generally, instructors can employ strategies that enhance the detection risk of cheating. Hodgkinson et al. (2016) illustrated this by presenting situational strategies to mitigate cheating behaviours, such as increased oversight by test proctors and using plagiarism detection software, which enhances the likelihood of detection and thereby reduces academic dishonesty rates.

Using invigilators during examinations has been frequently cited in studies as an adaptable and effective strategy for reducing cheating. However, the presence of a proctor may not be sufficient on its own; close monitoring of students and strategic seating arrangements may be necessary (Hodgkinson et al., 2016). While preventative measures are generally preferable to punitive

actions, online courses require creative and innovative oversight strategies, such as employing anti-cheating software to improve detection rates and influence the potential for formal reporting. Research on formal reporting reveals that the threat of stringent penalties has minimal impact on students' cheating behaviours (Tonry, 2018), reflecting a low perceived likelihood of formal reporting. Generally, a majority of instances of misconduct remain unreported by instructors in universities (Romain & Freiburger, 2016).

Freiburger et al. (2017), the authors discovered that among students from two universities, a significant majority (70%) admitted to engaging in cheating behaviours, while only 5% reported undergoing formal disciplinary processes for these actions. These findings are consistent with previous research, which shows that only 1-2% of students experience formal hearings for their misconduct. For college students, the potential for formal disciplinary referral can significantly influence cheating behaviours. The lack of comprehensive disciplinary measures may lead students to perceive cheating as a low-risk endeavor. Freiburger et al. (2016) noted that students might feel motivated to cheat when the likelihood of punishment is low. However, the current landscape of online learning and digital detection software may alter the potential for formal reporting. Within academic departments, there is a prevailing belief that misconduct is more prevalent in online courses, leading many instructors to view these classes as inferior learning environments. Contrary to these misconceptions, research has shown that cheating behaviours may not be as prevalent in online settings.

This discrepancy may be attributed to the implementation of cheating prevention software utlised in online instruction when necessary (e.g., during

online examinations). In this context, remote proctoring software, such as the Respondus Lockdown Browser (RLB), has been identified as an effective alternative to in-person proctoring. Stack's (2015) study involving online criminal justice students examined two distinct environments: on campus with a proctor and online through the Respondus program. The analysis of test scores revealed no significant differences between the two settings, which contrasts with earlier findings that indicated students taking online exams scored higher than those in proctored environments (Stack, 2015). Consequently, the Respondus Lockdown Browser creates conditions comparable to traditional classes, encouraging students to avoid cheating, just as they would under the supervision of a live proctor. Moreover, Respondus can generate digital evidence of cheating, potentially increasing the likelihood of a formal referral. Essentially, Respondus is a proctoring tool that can alleviate concerns regarding misconduct in online learning settings that lack oversight (Stack, 2015), which may also influence students' perceptions of the risks associated with formal disciplinary referral.

Regarding plagiarism, Turnitin is a widely utlised program among college instructors (Bruton & Childers, 2016) that identifies plagiarized sections within students' work. The practice of plagiarism through copying and pasting is commonly employed by college students (McCabe et al., 2012), but Turnitin can readily detect such instances, which may influence the likelihood of formal disciplinary action. Staats et al. (2009) explained that the process of considering formal referrals for cheating is often impeded by a lack of evidence. Nevertheless, anti-cheating software may bolster instructors' confidence in reporting misconduct, as similarity reports can serve as evidence, motivating

instructors to take action. Thus, engaging in dishonest behaviours may be perceived as riskier by students, prompting them to reconsider their decisions. Despite these advancements, certain limitations persist within anti-cheating and oversight software. Specifically, the Respondus Lockdown Browser may still struggle to detect misconduct among remote learners—it can prevent specific browser actions during online exams but cannot stop students from consulting classmates or copying printed materials (Stack, 2015). Utilizing a webcam in conjunction with the lockdown browser may enhance oversight. Regarding Turnitin, the limitations primarily lie with the instructors. Most faculty members use the software, with a small percentage opting out due to concerns over intellectual property and a lack of cohesion among faculty regarding its use (Bruton & Childers, 2016). This hesitation may stem from discomfort with the software in academic environments. Regardless, initiatives have been developed to enhance the detection of cheating and formal reporting to ensure effective use in both online and traditional settings.

Findings from previous studies (De Buck & Pauwels, 2019) indicate that students' behaviours are significantly influenced by peer dynamics in their decision-making processes. This topic has been examined within the framework of social learning theory; however, other studies suggest that these effects can also be understood through a rational choice framework. Within rational choice theory, a crucial element is the consideration of costs and benefits associated with specific behaviours.

Students may emulate the delinquent behaviours of their peers, yet they still engage in internal deliberation, conducting a cost-benefit analysis before committing acts of delinquency, albeit such decisions may be more impulsive.

Osgood et al conducted an in 1996 that explained that the presence of peers may overshadow the perceived consequences in light of the immediate benefits gained from the behaviour. Therefore, while undergraduate students may not generally exhibit deviant behaviour, such behaviours may arise from external influences. Peer pressure can exert a strong influence, often leading adolescents to engage in undesirable actions (De Buck & Pauwels, 2019). When analyzed through a rational choice lens, the social advantages derived from illicit behaviours may compel students to seek acceptance from their peers, thus framing delinquency as a rational means to achieve that goal. Additionally, aside from delinquent acts, peer influences may significantly impact students' engagement in dishonest behaviours, particularly among criminal justice majors. Research investigating the effects of peer influences on student behaviours within the field of criminal justice is vital, as previous reviews indicated that overall cheating rates among criminal justice majors align closely with those of their non-major counterparts, reflecting a consistent trend throughout the college student population.

Furthermore, studies have indicated that criminal justice students experience fewer behavioural distractions, although peer interactions can still leave a lasting impression on these individuals. With regard to dishonest behaviour, peer influences seem to significantly heighten the likelihood of cheating, particularly among criminal justice majors. From a rational choice perspective, this suggests that criminal justice majors perceive a greater social benefit in cheating compared to their peers in other disciplines. Similar to adolescents, college students may engage in cheating to gain acceptance from their classmates, leading to dishonest behaviours that mimic those of their peers.

In the same vein, Freiburger et al. (2017) observed that witnessing cheating among fellow students can influence individuals' decisions to engage in similar acts. This phenomenon is especially true when instances of misconduct are overlooked by instructors. It is noteworthy that the presence of peers can shape the decision-making process of individual students. In large settings, individuals may feel their behaviours are less noticeable, leading them to perceive lower risks of detection when participating in illicit activities alongside others (Hoeben & Thomas, 2019). This tendency is particularly relevant for the college student population, as larger lecture halls may diminish the perceived risk of detection by instructors, emboldening students to cheat more than they would in smaller classes. The absence of a shared learning environment may also be significant in studies related to misconduct. According to Sun and Chen (2016), in online learning environments, students are physically and socially distanced from their peers and instructors, resulting in distinct relational dynamics compared to traditional learning environments. Consequently, cooperation among peers in online settings is limited, potentially reducing the traditional influence of peers on tendencies toward dishonest behaviour. Additionally, students may exercise greater independence in decision-making when learning online, given the lower levels of peer influence. Notably, criminal justice majors are particularly susceptible to the behaviours of their peers, highlighting the need for further research.

In colleges, the issue of dishonest behaviour is prevalent (McCabe et al., 2012), and some view it as a marginal concern, despite posing a serious threat to higher education. High rates of misconduct among the student population reflect poor educational quality and challenge the legitimacy of institutions.

Furthermore, neglecting to address student cheating can lead to public distrust in higher education. Beyond institutional ramifications, dishonest behaviour can result in long-term challenges for students, as engaging in such practices may carry over into their professional lives. This underscores the urgent need to mitigate occurrences of dishonest behaviour.

A prior study conducted by Sozon et al. (2024) on undergraduate students' cheating has explored the subject in depth; however, the recent changes in higher education delivery necessitate further exploration of this topic. The COVID-19 pandemic has significantly impacted all aspects of life, particularly education. Before the pandemic, the number of online students was minimal, but since 2020, enrolment statistics have undergone a drastic shift as universities adopted online learning models. Consequently, past findings regarding dishonest behaviours in academic settings may not apply to the current online learning context. This study primarily aims to investigate the patterns of dishonest behaviour in relation to online learning. It focuses on criminal justice majors and seeks to identify the factors that differentiate this group of students. To this end, the study utilizes rational choice theory as its theoretical framework and employs a quantitative methodology to examine variables reflective of these theoretical principles. By doing so, the study aims to explore how current behaviours associated with formal reporting and peer influence affect students' decision-making regarding dishonest actions. It is posited that enrolment in online classes may further contribute to this issue.

The principles of rational choice theory are examined through a survey, involving data collection and various statistical analyses to understand the

individual-level factors that serve as central explanatory variables for current academic integrity violations.

In Malaysian higher education institutions, academic integrity violations are common and recurring issues. Over the past decade, a significant number of university students have engaged in dishonest behaviours during coursework and examinations, committing various forms of misconduct that fall under academic integrity violations. These violations have long-term negative effects that extend beyond the confines of academic institutions. The prevalence of plagiarism and cheating among students has been exacerbated by the shift to virtual teaching and assessments in response to COVID-19 (Goff et al., 2020). In addition to plagiarism and cheating, other forms of academic dishonesty include fabrication, unethical collaboration, and assignment copying all of which students have been reported to engage in.

Numerous studies have sought to determine the reasons behind academic integrity violations, with some authors pointing to the dishonest use of information and communication technology (ICT) as a contributing factor in higher education institutions (Peytcheva-Forsyth et al., 2018). The traditional classroom environment has been adversely affected, fostering a culture of cut-and-paste practices and the regurgitation of ideas, which undermines originality and breaches academic learning objectives. Ives et al. (2017) suggested that students often engage in unethical behaviours due to their perception of an unfair advantage within the grading system.

Such violations erode the trust and confidence foundational to the academic system, reflecting a breach of ethics that contributes to the proliferation of dishonest students and poses a challenge on a global scale

(Mustapha et al., 2017). Consequently, maintaining sustainable academic integrity in Malaysian higher education institutions has become increasingly difficult (Irma & Kusumanto, 2018). The ongoing rise in students claiming false achievements, coupled with the societal consequences of such behaviours, highlights the urgent need for research into the determinants of dishonesty and their influence on academic integrity. Such studies are essential for providing a comprehensive understanding of the long-term implications of academic misconduct in higher education institutions in Malaysia.

Overall, this study utilises Social Learning Theory, Rational Choice Theory, and Self-Determination Theory to provide crucial insights into why students may either uphold or compromise academic integrity. Social Learning Theory illustrates how students are influenced by the behaviours, attitudes, and reactions of their peers, instructors, and institutional leaders, which can shape their ethical decisions. Rational Choice Theory further examines how students evaluate the risks and rewards associated with academic dishonesty, enabling them to make calculated choices based on perceived outcomes. Meanwhile, Self-Determination Theory (introduces an additional perspective by highlighting the significance of intrinsic motivation, personal values, and autonomy, all of which drive students to either commit to or disregard ethical behaviour. Collectively, these theories offer a comprehensive understanding of the complex motivations influencing students' decisions regarding academic integrity within the context of higher education in Malaysia.

2.3 Factors Affecting Higher Education in Malaysia

Education is one of the most essential human rights and serves as the foundation for long-term individual and societal growth. It is defined as the process and result of acquiring knowledge and enhancing competencies, representing a continuous journey of learning aimed at personal and professional advancement. One of the core goals of education is to enable individuals to realize their full potential, both professionally and personally. Furthermore, it promotes human creativity and curiosity, fostering tolerance, empathy, and respect for diversity, while also encouraging the development of attitudes that embrace social norms and values.

Education plays a vital role in advancing the United Nations (UN) sustainable sevelopment goals (SDGs) a set of 17 global objectives adopted in 2015 to tackle various global challenges by 2030. Among these, the UN has prioritised ensuring inclusive and equitable quality education and promoting lifelong learning opportunities for all, recognising that education is not only a standalone goal but also a key enabler of many others.

As Fernández-Linares (2020) highlights, quality education focuses on the holistic development of each student, addressing their social, emotional, mental, physical, and cognitive growth, regardless of gender, race, ethnicity, socioeconomic status, or geographic location. Moreover, education serves as a lifelong process of enhancing human capacity in social, moral, cultural, spiritual, and intellectual spheres. High-quality education helps students develop their full personalities while preparing them for the workforce. It also instills moral and ethical values in students, empowering them to lead balanced, meaningful lives.

In the last decade, Malaysia has undertaken significant educational reforms that have resulted in impressive gains in student enrolment and global recognition in areas such as research publications, institutional quality, and innovation. Additionally, Malaysia has become a leading destination for international students. Education has enhanced the knowledge, skills, and growth mindset that has driven considerable progress and prosperity for Malaysian citizens. Healthcare, nutrition, and social protection to raise living standards and develop human capital. To achieve this, key priorities include improving the quality of education to enhance learning outcomes, revising nutritional strategies to reduce childhood stunting, and strengthening social welfare protection to support household investments in human development.

The Malaysian government has placed education at the forefront of its national development strategy, seeing it as a tool for fostering economic growth, national unity, and improved living conditions for all its citizens. However, a concerning trend has emerged in recent years, with a notable increase in incidents of academic integrity challenges across colleges and universities. Lancaster and Cotarlan (2021) observed a 196.25% increase in the number of test-related questions posted on platforms like Chegg during a five-month period in 2020, compared to the same timeframe in 2019. This surge suggests a strong correlation between an increase in reported cases and actual occurrences of academic misconduct. Further studies, such as that conducted by Maryon et al. (2022), provide additional evidence indicating that students were more likely to engage in dishonest behaviours on exams and assignments during the COVID-19 pandemic compared to pre-pandemic times.

This unethical behaviour includes various forms, such as the unauthorised use of resources, student collusion, and contract cheating. Such occurrences are not uncommon globally, and Malaysia's higher education institutions (HEIs) are no exception. In the academic realm, different forms of academic integrity breaches—such as cheating, plagiarism, unauthorised external assistance during assessments, electronic cheating, and student collusion—have been prevalent, particularly in HEIs. While these challenges have long existed, the global COVID-19 pandemic has exacerbated them due to the shift toward virtual teaching and learning methods. Across global education contexts, breaches in academic integrity surged during the pandemic, with similar trends being observed in Malaysian HEIs (Mustapha et al., 2017; Khalid et al., 2020).

The literature highlights an increase in the number of students engaging in cheating and plagiarism during online instruction and assessments. For instance, Khaled and Patrick (2022) found a significant improvement in students' performance in digital quizzes and exams compared to in-class assessments. Similarly, Kennedy et al. (2000) noted that 57% of students admitted that it was easier to cheat in online courses, with many achieving higher grades in online exams than in face-to-face settings. Instructors have raised concerns about the effectiveness of online teaching and assessment, particularly in terms of maintaining academic integrity. The ease of submitting plagiarized work online, particularly through the use of the Internet, has facilitated such behaviour. Rozar et al. (2020) noted that students often engage in plagiarism by copying and pasting sentences, phrases, or words from the Internet without proper attribution. The reasons behind this practice range from

ignorance and a poor attitude to time constraints and institutional pressures. This has created serious challenges for educational institutions in identifying and preventing such tendencies (Cardina & Kristiani, 2022).

The reasons behind these integrity breaches vary greatly and can be influenced by individual, societal, and national contexts. Understanding the root causes of these behaviours may provide insight into how they can be effectively mitigated in HEIs. Several factors contribute to students' tendencies toward such behaviours, including peer pressure, the availability of the Internet, societal norms, and individual mindsets. Eshet et al. (2019) observed that technological factors in HEIs significantly increase the likelihood of such actions. A survey by Stoner et al. (2014) found that 40% of students used the Internet to plagiarize their work. Other contributing factors include poor student-professor relationships, demographics, laziness, challenging tasks, and misuse of technology (Mustapha et al., 2017).

In response, educational institutions can develop strategies to promote integrity and creativity. This might include establishing clear institutional policies, fostering positive motivational environments, and encouraging the reporting of unethical behaviour through whistleblowing policies. Such measures can empower students and faculty to hold each other accountable for upholding integrity.

Contextual factors affecting breaches of academic integrity vary from one person to the next and from one country to another. Understanding these factors is crucial for resolving and deterring such behaviour in HEIs. Several studies have explored the determinants of integrity breaches in Malaysian HEIs,

documenting the influence of peer disapproval, parental pressure, and access to technology.

A review of the literature identifies four key factors related to breaches of academic integrity in HEIs: the academic environment, social influences, academic culture, and student motivation (Khalid et al., 2020; Rozar et al., 2020; Farahat, 2022). These four factors influencing academic integrity in Malaysian HEIs are illustrated in Figure 1.

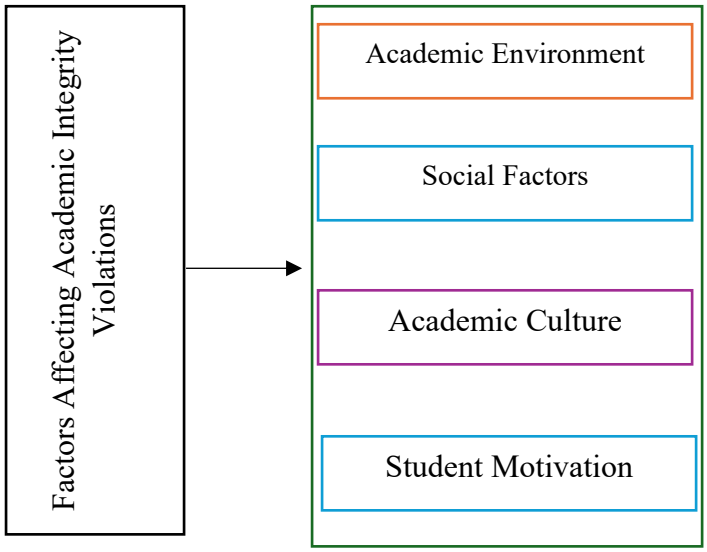

Figure 2.1: Factors Affecting Academic Integrity in HEIs in Malaysia.

Source: Developed for the research

2.3.1 Academic Environment

The academic environment is the physical and social space where teaching and learning occur. It encompasses the framework, circumstances, and elements that support educational activities. These elements include the social and cultural dynamics of the institution, such as the interactions between students, faculty, and staff, as well as its physical infrastructure, which covers classrooms, libraries, computer labs, research centres, and academic policies (Gkloumpou & Germanos, 2022).

The academic environment can include a broad range of factors. These range from the physical aspects such as the location of learning, space design, tools, and materials used to the activities performed, assessment techniques, and work culture that influence learning. It also encompasses the psychological, social, cultural, and physical contexts in which students learn, shaping their motivation and performance. This overall context, where expectations and experiences are co-created by participants, is called the academic environment (Rusticus et al., 2020). Faculty, staff, and students actively participate in this process while managing their motivations, emotions, and interpersonal interactions.

A supportive academic environment is one that fosters learning, fulfilment, and equal opportunity for all students to achieve their best. It provides students with the opportunity to engage in group projects, lectures, presentations, and cultural events. In such settings, students can develop teamwork skills and the confidence to express their ideas. Educational studies have indicated a strong relationship between student performance and the learning environment. Therefore, establishing a classroom management system that enhances student performance and enriches the learning environment is essential.

The first factor examined in this study regarding academic integrity issues in Malaysian HEIs is the academic environment, particularly the psychological dynamics of the classroom. Each classroom has distinct physical settings and cultures in which students learn, which forms the basis of the academic environment. This environment, synonymous with the classroom or

learning environment, is structured to foster learning and creativity through academic materials (Thomas et al., 2017).

Studies have shown that the academic environment significantly impacts academic integrity in HEIs. Practices that compromise academic integrity—such as receiving outside assistance, plagiarism, and misuse of technology—are influenced by the learning environment. With technological advancements, dishonest behaviours like cheating and plagiarism have become more widespread. Information and communication technologies (ICTs) have enabled students to plagiarize and cheat more easily. As a result, students must be educated on the importance of intellectual property rights, copyright and fair use, citing resources, and avoiding plagiarism. Secker and Morrison (2022) highlight the importance of honoring and protective the owernership of creative works. A positive learning environment promotes favorable student outcomes, such as academic success and overall satisfaction (Chang et al., 2018). It also motivates students, promotes their interest in learning, and ensures their personal safety. Conversely, a negative learning environment may foster attitudes that lead to unethical behaviour. In this study, three key aspects of the academic setting are examined in relation to academic integrity: students' understanding of academic policy, knowledge of the consequences of dishonest behaviour, and the certainty of being caught.

Institutional factors also contribute to unethical behaviour in HEIs, including policies related to penalties, a lack of technological tools for detecting cheating, insufficient plagiarism awareness programs, and inadequate supervision. Moreover, legal loopholes and unclear institutional guidelines on plagiarism, heavy coursework, and lack of trust between students and

instructors can all contribute to integrity breaches. HEIs that have established honour codes report fewer cases of dishonest behaviour compared to those without such policies.

2.3.1.1 Understanding of Academic Policy

Academic policy and code of conduct in HEIs are important in preventing unethical behaviour among students (Gallant & Rettinger, 2022. It is essential for students to understand the distinction between acceptable and unacceptable behaviour within academic institutions. However, research suggests that schools often undervalue academic integrity, leading students to perceive it as a minor concern (Bylieva et al., 2019).

In Mustapha et al.'s (2017) study, the authors examined the establishment of academic integrity education programmes and their role in shaping students' moral and ethical principles. Academic integrity should be instilled in students from their first year, much like language and mathematics assessments, as this helps them recognise and appreciate the significance of academic integrity policies (Amigud & Lancaster, 2019). Furthermore, new students must be made aware of institutional policies on academic integrity, as a clear understanding of these guidelines can positively influence their perception of ethical academic conduct.

2.3.1.2 Knowledge of the Severity of Punishment for AIVS

Academic integrity violations should have consequences and penalties and students need to be informed about them. Infractions to integrity often happen in HEIs owing to ineffective policies, regulations, and penalties (Cardina & Kristiani, 2022). Academic integrity violations need to be addressed

by institutions through a complete action plan. Institutions may address and prevent infractions by ensuring that sanctions and penalties are issued commensurate with the offence level. Students may be prevented from violating the academic integrity of the institutions if they are informed of the punishment severity in doing so and what better individuals to limit the infractions than instructors who hold a frontline position. Instructors are in a position to contribute to maintaining and increasing academic integrity by the promotion of motivational messages and information regarding the negative effects of its violation.

2.3.1.3 Certainty of Being Caught

There is a need for HEIs to develop a detection system of academic dishonesty and if students are made aware of such a system, they will not likely involve themselves in any dishonest behaviour. In De Lambert et al.'s (2006) study, the authors found that half of the number of students (50%) thought university staff would refrain from reporting academic dishonesty, and this ensures that they are inclined towards breaching academic integrity. Based on Gallant and Rettinger (2022) and Harris and Jones (2020), contextual factors including peer cheating behaviour, peer disapproval of cheating behaviour, and perceptions of the penalties seriously can contribute to incidences of cheating.

Students think twice about reporting dishonest behaviour of peers for fear of destroying their relationships, while academic personnel hesitate to report academic dishonesty owing to the extra burden and hassle of going through disciplinary procedures. Clearly, the academic environment is directly related to academic integrity violations in HEIs. Also, HEIs may not have the

necessary tools and policies for cheating detection among students and hence, they are unable to take corrective actions.

2.3.2 Social Factors

Social factors are aspects of life that relate to society and have direct and indirect effects on a person's behaviour. This can include impacts on social and academic institutions, social groups, societies, and ordinary people living in society. This shapes the individual's mental state, behaviours, and social relationships. They occur in a variety of social contexts, such as educational and family conversations, peer intelligence, social standards, family dynamics, financial performance, and social skills.

The studies show that the family plays a crucial role in socialization by instiling values, beliefs, and rules in children from an early age. A variety of social orders are the result of social factors such as language, customs, and traditions. Therefore, social factors are considered vital elements that are often influenced by a person's financial status, which also affects their access to resources, opportunities, and social adaptability.

Social behaviour is, first, the display of beliefs, attitudes, and behaviours that are accepted by certain groups or cultures. These factors include peer pressure, competitiveness, outperforming rivals, gender, socioeconomic status, religious beliefs, and parental pressure to excel. In this connection, social factors have been considered as the second variable in this study to examine its impact on academic integrity violations.

AIVs are increased in HEIs due to the growing number of social factors in an increasingly complex and diverse higher education landscape.

Understanding social factors is essential to skillfully navigating social contexts that involve AIVs in HEIs. Academic communities are complex, and this is reflected in the complex relationship that exists between social factors and AIVs in HEIs. The lack of explicit institutional policies and guidelines on academic integrity is a key social factor that promotes academic dishonesty in HEIs (Kennet and Shkodkina, 2018).

In higher education institutions, social factors have a significant impact on students' moods and behaviour related to academic enthusiasm. These factors also influence how students decide what behaviour is appropriate and ethical in academic settings. The study provided that peer pressure becomes a crucial social factor in higher education, as students are drawn to competitive learning environments driven by the desire to achieve higher academic grades. Therefore, students attempt to commit plagiarism, cheating, and other forms of academic integrity violations due to fear of peer rejection, and the desire to prove that they are intelligent by compromising their ethical values. If they believe that these actions are typical or socially acceptable in their age group, they tend to be particularly sincere. Furthermore, the social milieu of higher education fundamentally shapes students' views on academic success and the moral codes that guide their academic pursuits. For students growing up in cultures where achievement is more important than forms and outcomes, academic achievement may be more important. This could increase their propensity for dishonest behaviour.

Furthermore, the advent of technology has offered both opportunities and difficulties for maintaining standards of AIVs in universities. Due to the lack of clear guidelines, students may be confused about what constitutes

academic integrity and how to avoid violations. Moreover, the presence of external pressure and student competition are another social factor that leads to violations of academic integrity. Due to intense competition, students may feel pressure to cheat to perform better than their peers and obtain better grades. Besides, academic integrity violations can also be influenced by social factors such as peer pressure and the need to fit in (Kennet & Shkodkina, 2018). For example, students may engage in dishonest behaviour such as cheating due to peer pressure to imitate the rules of a particular social group. Previous research has delved into students' intentions to break laws, conventions, and ethical standards in order to pass exams, graduate, or outperform competitors.

This has highlighted the role that social factors play in breaches of academic integrity, particularly in Malaysian universities. Senko et al. (2023) identified two social factors—social norms and social trust—that were associated with these student violations. Individual behaviour can be significantly influenced by social norms and trust (Al Shbail et al., 2022), and AIVs among students in HEIs are closely related to social problems (Bucciol et al. 2020).

Preventing misconduct in HEIs and fostering an environment for academic honesty requires due diligence, as these factors make clear. By effectively considering these social factors, academic integrity policies and interventions can be developed. The article's findings deepen our understanding of the primary motivations that students may have for academic misconduct. According to Stiles and Gair (2010), there is a complicated and nuanced relationship between social factors and academic integrity violations in higher education institutions. Because social factors influence violations of academic

integrity in universities, they are classified as social norms and social trust in this study.

Social factors in this study are categorized into social norms and social trust in terms of their impact on the violation of academic integrity in universities. In summary, social factors, such as the lack of clear guidelines, external pressures, and competition, the influence of social media and technology, and peer influence, can all contribute to academic integrity violations in higher education institutions.

2.3.2.1 Social Norms

According to Bucchieri and Mercier (2014), social norms in the social sciences are generally understood as established guidelines that impose restrictions on behaviour by encouraging conformity. Early definitions of norms defined them as “folkways” and as “all other criteria of behaviour that are standardized as a result of the interaction of individuals with each other.” According to Al Shbail et al. (2022), norms refer to socially acceptable standards of behaviour and play a role in shaping a person's perception of the need to make certain decisions.

According to Raven and Rubin, in 1976 defined norms as “the provision of order and meaning to a situation that might otherwise be viewed as ambiguous, uncertain, or perhaps threatening.” Social behaviours that are more characteristic of a sociocultural collective unit than of randomly observed individuals” are another way to conceptualize norms. Explaining norms as a group's collective knowledge of the acceptable and preferred behaviours within that group is a common theme in these definitions. Social norms are essential

for maintaining social order and promoting community cohesion. They help understand what is expected of people in different social contexts and serve as guidelines for correct behaviour. Social norms determine how much a person believes they should engage in a particular behaviour to complete a task.

Social norms are broad, unwritten, unspoken guidelines that define appropriate behaviour in a particular society and influence how people behave there. These guidelines are established at the beginning. A feeling of exceptionalism or a moral imperative is a component of social norms. Regardless of how an agent's behaviour develops, social norms determine what behaviour people do and don't show. Norms are nothing more than rules of behaviour that create social expectations without moral obligations. Any kind of violation of social norms exposes a person to punishment. Depending on the context of the study, it can have different meanings (Schultz, 2022).

The norms fall into one of five categories: subjective, descriptive, injunctive, collective, and perceived. The code of conduct for a collective social unit is represented by collective norms that operate at the level of social systems. Conversely, perceived norms operate at a psychological level and indicate how people understand the collective norm – whether accurately or inaccurately (Park & Smith, 2007).

According to Kallgren et al. (2000), descriptive norms refer to beliefs about what others do, while injunctive norms refer to beliefs about what others think they do should be done. In contrast to collective norms, which concern the actual prevalence of the behaviour, descriptive norms concern perceptions regarding the prevalence of the behaviour. According to Lapinski and Rimal (2005), noncompliance with descriptive norms is generally not associated with

social consequences, while violation of injunctive norms is usually associated with such consequences.

Subjective norms are the perceived social pressure from important people in one's social environment to adopt a certain behaviour. Accordingly, subjective norms refer to the perception of what significant others expect of one, whereas injunctive norms refer to the perception of other people's approval, and descriptive norms refer to the perception of what other people do.

This work was inspired by Sherif's (2017) groundbreaking research on the influence of society on perception using autokinetic experiments. In line with Lindauer & Gostin (1973), the autokinetic effect is influenced by the meaning and context of the stimulus, providing a framework for the perception of apparent movement. Sherif showed how groups would naturally approximate an estimate of the amount still needed. Sherif conceptualized individual perceptions as anchored in frames of reference provided by others, and he called social norms, “social frames of reference.” He discovered that decisions made in a group context (as opposed to those made alone) persist long after the group has disbanded, illustrating the ability of group norms to influence perception and be internalized by the individual as true knowledge to become (Sherif, 2017). Sherif concluded that when ambiguity arises, a group's influence is informational rather than coercive; People can be influenced to make judgments based on the group's frame of reference rather than their own. When people internalize this frame of reference, they are able to use it regardless of the presence of other people. This frame of reference is derived from the group.

Research has identified various types of norms that affect behaviour in different ways. According to Niemiec et al. (2020) and Rimal & Real (2003),

these include personal norms (internalized standards), descriptive norms (what others), and subjective/injunctive norms (what others approve of). Additionally, Fornara et al. (2011) suggests that "local norms" originating from shared physical environments are relevant to behaviours tied to specific locations, such as recycling.

Niemiec et al. (2020) found that descriptive and personal norms have a greater influence on behavioural intentions than subjective standards. Factors such as communication styles and group identification can also impact how norms operate (Rimal & Real, 2003). Furthermore, in addition to the fundamental differences, norms can be categorized along dimensions such as the moral-conventional divide and the concepts outlined in the moral foundation's theory (O'Neill, 2017).

Students from different social and economic backgrounds enroll in higher education institutions, and this has a significant impact on how likely they are to violate academic integrity there. In higher education, integrity is crucial, as it ensures the truthfulness, integrity, and moral behaviour of teachers and students. Maintaining integrity allows teachers to create an impartial and equitable learning environment while providing students with the opportunity to demonstrate their genuine skills and knowledge. By creating a foundation of trust and respect, this commitment to integrity promotes an honest and moral culture within the academic community.

Violations of academic integrity, which include plagiarism, cheating and data falsification, not only jeopardise the educational process but also damage the credibility and reputation of the institution. Social norms are embedded in everyday life, whether consciously or unconsciously practiced. These norms

have evolved over time to facilitate the smooth functioning of society. Individuals are generally expected to adapt their behaviour based on their environment, circumstances, and cultural context. When they fail to conform to established norms, they may face consequences or sanctions.

Although certain norms, such as foot binding and rigid gender expectations, have had negative implications, most are developed to promote societal order and cooperation. Social norms shape individual behaviour, encouraging people to act in ways that align with societal expectations. Those who do not adhere to these norms often face disapproval and judgement (Gilson, 2020).

These social norms, such as the way you are expected to act, can restrict individuals from freely expressing themselves, as it encourages individuals to act and behave in certain ways according to the environment, solution, and culture. This is due to more being seen as very important, as it shapes individuals' values, beliefs, behaviours, and interactions.

2.3.2.2 Social Trust

This is the belief in one's ability to socially interact with others or the comfort level of the individual while interacting with others (Al-Shbail et al., 2022). In HEIs, this refers to the confidence of students to interact with their peers and share examination answers, which is a violation of academic integrity. In this regard, the damage made to social trust would lead to the recurrence of dishonest behaviour.

Everyone is different; people have their special quirks and qualities that make them individuals. These different qualities have different methods of

gaining the trust of others. Integrity has a major impact when creating a trusting relationship. The psychological need for loyalty and companionship seems essential for their own kind yet modern-day influences declare. We should not rely on anyone but ourselves. Trust is a gradual process that requires a form of social, mental, and psychological interactions. This trust between two individuals in companionship relies on the predictability and dependability of each party surfacing.

A society without trust is a society without unity. Society's members need to trust not only each other but also the system within the community. Mistrust within a community can led to a lack of empathy, dishonesty, passive aggression, and violence. Some of these may seem harmless in small amounts but can threaten society in its entirety if left untouched.

The consequences of any of the elements listed above can cause corruption and dishonesty nationwide. Applying a solid foundation of integrity, competence, and patience allows for the best form of trust to emerge. Seeing how trust is formed, and what society would be like without it, is a statement of its importance. Although we see a native view of trusting others, the world would not function without it. The key to a successful and complete society relies on the integrity, competence patience, and trustworthiness of our community members. Building trust takes time and effort upfront. It takes deep commitment and follow-up through.

Factors that influence the likelihood of trust in economic transactions as a fundamental assumption that individuals act in their self-interest. This is the belief in one’s ability to socially interact with others or the comfort level of the individual while interacting with others. In HEIs, this refers to the confidence

of students to interact with their peers and share examination answers, which is a violation of academic integrity. In this regard, the damage made to social trust would lead to the recurrence of dishonest behaviour.

2.3.3 Academic Culture

Culture is a fundamental part of society. Culture is the way that people share their thoughts and ways of life. It consists of various elements, such as daily life, art, religion, food, and government, among others. Culture has seven characteristics, and they are: teacher support, involvement, investigation, task orientation, equity, cooperation, and social cohesiveness. According to Owens (2019), culture is art and other expressions of human achievement. It is influenced by the perspectives, laws, and structures of a global society that are influenced by culture. The culture in which one lives has a significant influence on an individual's attitudes, values, beliefs, arts, ideas, perceptions, and habits of thought.

Culture varies across different religions, nations, and even individual states. According to Bevan and Sole (2019), culture is the culmination of all an individual's beliefs, experiences, morals, viewpoints, events, positions, outcomes, moments, and spatial relationships. On the other hand, the term “academic culture” describes the customs, beliefs, norms, and practices shared by students in higher education, particularly colleges and universities. According to Brick (2009), academic culture includes shared attitudes, values, behaviour, and belief that prevail in universities and other higher education institutions. In short, academic culture can be defined as a shared set of beliefs, values, and cognitive processes.

Academic culture is made up of a diversity of students, teachers, and non-teaching staff. The diversity of students includes both male and female students from different cultural backgrounds and students of various ages. The diversity of teaching and non-teaching staff is made up of males and females, different cultures and races, and varied teaching and working experiences among others. Moreover, the rules and guidelines for appropriate behaviour of teachers and students as well as the underlying philosophy of teaching and learning at this level are part of the academic culture. It places great emphasis on the pursuit of cross-disciplinary knowledge, intellectual research, and critical thinking. This also includes things like peer review, scientific integrity, academic freedom, and the sharing of research results. The academic culture within the academic community often involves collaboration, mentoring, and the exchange of ideas among students, faculty, researchers, and scholars. A strong academic culture that prioritizes honesty, integrity, and ethical conduct can serve as a deterrent to academic violations by promoting a climate of trust, respect, and accountability among students, faculty, and staff.

On the other hand, an environment in which breaches of academic integrity are more common may be inadvertently caused by a weakness or lack of an ideal academic culture. An institution's culture of academic integrity can be undermined by elements such as fierce competition, pressure to succeed, ignorance of academic ethics, and a lack of serious consequences for misconduct. Some cultural factors could result in students' engagement in unethical behaviour and these include; helping a friend financial benefits obtained from helping a friend, being angry with peers, the presence of collectivism as opposed to individualism, lack of concentration on the academic

community attitude regarding cheating and plagiarizing students, using a copy-and-pasty culture, students' competitiveness, lack of awareness of the consequences based on the perception of common deeds, and laziness in completing assignments.

Each culture displays a certain level of stress on the cooperative and collectivist nature of the learning environment, and as such, the individual or group dynamism within such an environment may motivate the student to get involved in academic integrity violations (Thomas, 2017). Additionally, the degree to which academic integrity policies and procedures are integrated into the larger academic culture determines how effective they are. Comprehensive integrity policies, clear standards for student conduct, and procedures to prevent, identify, and resolve violations are common in academic institutions with strong cultures.

Cultural factors were originally developed at home. In this regard, parents often pressure their children to achieve excellent academic achievements regardless of their abilities and capabilities, and this urges them to breach academic integrity. Several factors influence the complex relationship between academic culture and academic integrity violations in higher education. According to Drach and Slobodianiuk (2020), developing a culture of academic integrity through educational initiatives is crucial rather than relying solely on punitive measures.

According to Guerrero et al. (2020), findings showing that students who commit academic dishonesty are more likely to behave unethically in the workplace confirm this. Mackay (2022) conducts further research on student beliefs, institutional policies, and a sense of disciplinary belonging, as well as

how these factors impact academic integrity violations. The importance of institutional settings in shaping academic culture is finally highlighted by Ergenç (2022), particularly in light of the increasing global integration of higher education institutions. Overall, these studies highlight the need for a comprehensive strategy that considers institutional and individual factors to support academic integrity.

In some studies, students were found to believe that achieving high academic standards would fuilfill guaridant desire and expected academic outcomes (Farahat, 2022), and some parents forced their children to obtain excellent marks regardless of their abilities, and such expectations could motivate the children to breach academic integrity. In the same line of study, Rozar et al. (2020) found that students' attempts to plagiarize arose when they were challenged by tasks, when achieving good marks would need extra effort and time, and when family pressure is high. Students believe that within a limited time, it is impossible to obtain high scores, and thus, they resort to cheating, which leads to culture/habit development. Parents' pressure on their children to get high marks even though it is not within their ability, would lead them to cheat in exams, mimicking their peers who do so to obtain high grades. Proper implementation of academic honor code and best academic practices can lead to the promotion of academic integrity among students, and thus it becomes essential to understand how academic culture affects students' inclination towards academic integrity violation (Bretag & Mahmud, 2014).

The studies show that preventing academic violations can be achieved by cultivating a climate of trust, respect, and responsibility among students, faculty, and staff through a strong academic culture that places great emphasis

on honesty, integrity, and ethical behaviour. To ensure the integrity of the educational process and maintain academic standards, a strong academic culture must be created that values integrity, promotes ethical behaviour, and builds a community of trust and learning. In conclusion, violations of academic integrity and academic culture in higher education are interconnected, with the former being crucial to the development or alleviation of the latter.

2.3.4 Student Motivation

Student motivation is one of the most important foundations of higher education. Motivation stimulates human behaviour and is considered a crucial component of a student's academic success and achievement. It inspires students to actively participate in their educational goals to continuously learn and improve their overall skills.

Intrinsic and extrinsic motivation are the two main types closely associated with students. Performing a task because of its intrinsic reward rather than a separate benefit is called intrinsic motivation. When someone is driven by intrinsic motivation, they act out of pleasure or challenge rather than in response to external cues, demands, or rewards. On the other hand, extrinsic motivation can come from things like grades, social recognition, or future job prospects. In the context of higher education, students may prioritiseachieving high grades or academic recognition over the process of the learning process and intellectual growth development due to extrinsic motivation, which is motivation fueled by external rewards or punishments.

Intrinsically motivated students typically demonstrate a genuine interest in the material, motivated by curiosity and a desire to become experts. Students

may resort to cheating or plagiarism to violate academic integrity when they lack intrinsic motivation and are under pressure to achieve certain academic goals. While promoting intrinsic motivation is often viewed as more sustainable and beneficial for long-term academic success, both types of motivation can impact student behaviour. Maintaining academic integrity is essential to preserving the moral norms of education and ensuring the validity and fairness of academic outcomes. Honesty, accountability, justice, and respect for intellectual property are just some of the values that define academic integrity.

Cheating, plagiarism, collusion, and unauthorised collaboration are examples of violations of academic integrity that undermine the credibility of scholarly work and jeopardise institutions' commitment to providing education. The unauthorised use or appropriation of another person's words, ideas, or work without due credit is known as plagiarism and poses a serious threat to academic integrity. Academic assessments lose credibility and integrity when students cheat, whether through illegal collaboration using prohibited materials during an exam or falsifying official documents. The achievements of honest students are also underestimated. Enforcing academic integrity is further complicated by the increase in academic integrity violations. This highlights the need for proactive measures to stop scientific misconduct.

While encouraging intrinsic motivation is frequently thought to be more sustainable and beneficial for long-term academic success, both types of motivation can have an impact on students' behaviour. Sustaining academic integrity is essential to preserving the moral norms of education and guaranteeing the validity and equity of academic results. Honesty, accountability, justice, and respect for intellectual property are just a few of the

values that make up academic integrity. In response to these challenges, higher education institutions must adopt a multi-pronged approach to promoting academic integrity and preventing violations. Cultivating a culture of ethical scholarship relies heavily on educational initiatives aimed at raising public awareness of academic integrity standards, proper citation practices, and the consequences of misconduct.

Academic institutions can promote values such as honesty and integrity in students from the beginning of their academic careers by integrating discussions of academic integrity into orientation programs, curricula, and class discussions. Students receive guidance on expected behaviour and are held more accountable for violations when academic misconduct policies are transparent and clear. These policies should include definitions of prohibited conduct and disciplinary procedures. Additionally, the use of technological tools such as online monitoring resources and plagiarism detection software can help detect instances of academic dishonesty and deter students from violating them. Technology can help maintain academic integrity. However, these interventions should not replace, but should be used alongside, broader institutional and educational programs to promote an ethical and moral culture.

Additionally, promoting academic integrity requires the collaboration and participation of a range of stakeholders, including academic support services, administrators, faculty, and students. Faculty members are crucial in setting clear standards of academic behaviour, modeling moral behaviour, and providing advice on scholarly rigor and appropriate citation techniques. Through regular dialogue and professional development opportunities, teachers can develop a deeper understanding of issues related to academic integrity and

effectively implement strategies to promote ethical scholarship in their classrooms. Likewise, academic administrators and support staff can help maintain academic integrity by taking proactive steps to stop misconduct, investigate claims of violations, and enforce disciplinary action when necessary. Student involvement in promoting academic integrity is equally important due to accountability and peer advocacy can reinforce social norms and create an environment where academic honesty and mutual respect are valued. Peer tutoring programs, academic integrity committees, and honour codes are examples of student-led initiatives that give students a voice in promoting integrity and academic excellence in their academic community.

The fourth factor examined in this study for its effect on academic integrity violations is students' motivation. Highly motivated students work towards getting good academic grades and being academically successful. Accordingly, motivated students may focus on studying, attending classes and completing and submitting assignments in a timely manner – activities and behaviours that are aligned with the academic integrity policy (Ryan & Deci, 2000). In contrast, students who are extrinsically motivated would focus on submitting copied assignments or plagiarizing and thus violating the academic integrity policy of HEIs. The motivation of students is an individual issue whereby individual factors may influence the choice of behaviour of the student.

In this regard, the institution's system can jumpstart, stimulate, and maintain specific students' behaviours. Motivation is therefore a technique to push an individual to behave in a specific way and in HEIs academic motivation is the root of which students' behaviours relating to academic behaviour rests (Kuhlmann et al., 2023). This includes students' low level of effort, workload

management, chosen activities and persistence towards academic development. Students' motivation can be categorized into intrinsic motivation and extrinsic motivation.

2.3.4.1 Intrinsic Motivation

This type of motivation urge works on students' learning memory and the mindsets of students have a significant effect on such motivation. Intrinsically motivated students are motivated towards devoting their time to their education and professional development (Lee & Ju, 2021). Self-motivated individuals are inclined towards learning new things to advance their careers and they are disinclined towards academic integrity violations. According to Bluestein (2015), students' motivation has a hand in discouraging them from academical dishonest behaviours. Promoting students' self-awareness of their strengths and weaknesses through educational instruction can minimize their engagement in academic dishonesty.

2.3.4.2 Extrinsic Motivation

Extrinsically motivated students often fall back on focusing on classes and obtaining grades and they end up perceiving themselves to be unable to complete their assignments according to the requirements of the institutions. They tend to make up for this by asking a peer to assist them in the completion of assignments, and in so doing, compromise their moral principles (Cardina & Kristiani, 2022). Students who are out to obtain an academic degree and not to genuinely learn will have a higher likelihood of cheating, believing that motivation towards obtaining a degree and cheating is positively connected. Students end up engaging in cheating for higher marks or to outshine their peers.

Cheating is perceived by these students as a useful strategy to get passing grades in their courses.

2.3.5 Demographic factors

The tendency of students to cheat and plagiarize is affected by demographic factors and based on the reviewed previous studies, several demographic factors have the potential to influence academic integrity violations among students and they are gender, CGPA, religion, student year and student categories (Zulfakar et al., 023).

2.3.5.1 Gender

Male and female students are enrolled in various Malaysian higher education institutions. Gender is one of the important factors that is linked to academic integrity violations. Zulfikar et al. (2023) revealed notable variations in academic dishonest behaviours based on gender, with females being found to engage in the act of "Copying by hand from another student's assignment" more frequently than males. In a similar study, it was found that female students engaged in dishonest behaviour (85%), much like male students, even though the majority of the behaviours indicated were viewed as serious by them. On the other hand, studies have also shown that male students are more likely than girls to engage in academic dishonesty (Abusafia et al. 2018; Druckman et al. 2019). Overall, the findings of the study of gender can help educational institutions design innovative strategies and preventive measures that lead to academic dishonesty between genders.

2.3.5.2 CGPA

CGPA refers to it as a cumulative grade point average. This is the numerical representation of students ’academic performance and achievement. Researchers have previously looked at several students' CGPAs to investigate the connection between academic integrity infractions and CGPA. The findings indicate that there is a correlation between a student's CGPA and academic integrity in higher education.

According to this study by Hasri et al. (2022), students with lower CGPAs (2.00 to 2.50) are more likely to violate academic integrity in universities. On the other hand, students with higher CGPA demonstrated a higher level of academic integrity in higher education institutions (Soroya et al., 2016). The same line of study (Cardina & Kristiani, 2022) revealed that students with low GPAs were more inclined towards breaching academic integrity to increase their grades and Harding et al. (2007) showed a high discrepancy between cheating and having a high CGPA among students. The results of the research (Hasri et al., 2022) study completely contradict the previously mentioned point of view that revealed that students with higher CGPAs (3:51 to 4:00) are more likely than those with lower CGPAs to regularly violate academic integrity. Thus, the impact of academic integrity violations has been determined in this study by considering students' CGPA.

2.3.5.3 Student’s Year

Research on academic integrity violations among college students has yielded mixed results regarding the influence of age and academic year. Some studies have found no clear patterns indicating a relationship between age or

year levels and dishonesty (Kay et al., 2022). However, one study discovered that advanced students were less honest when it came to work-based presentations. Another study observed significant changes in perceptions of academic integrity among the youngest and oldest participants, compared to those in the middle age group, after completing an e-learning tutorial. Factors that contribute to academic dishonesty include easier access to digital resources and the prevalence of online learning formats (Mackay, 2022).

Cheating behaviours vary, with assisting others in cheating being more common than exam cheating (Kay et al., 2022). Although online academic integrity courses have shown some effectiveness in reducing dishonest behaviours, their impact on students' perceptions and engagement in misconduct remains inconsistent. In another study by Brown et al. (2020), it is reported that bachelor students are found to be a strong predictor of AIVs than graduate students in HEIs. Moreover, by the study of (Whitley, 1998) sophomores, students are more likely to cheat than first-year students. Academic integrity violations vary based on the program and level of their study; therefore, this variable has been added to this study to see the differences in academic integrity violations based on students' age and academic year.

2.4 Academic Integrity Violations in Higher Education Institutions

Academic integrity is crucial for higher educational institutions. Every student must exhibit ethical behaviour as well as moral values in educational institutions. Gamage et al. (2023) defined academic integrity as the "compliance with ethical and professional principles, standards, practices and consistent system of values, which serve as guidance for making decisions and taking

action in education, research, and scholarship." HEIs are responsible for assisting students in setting their moral and ethical compass (Bleazby, 2020). In this sense, 97% of American parents agree that qualities for instance honesty and integrity should be an integral part of the academic curriculum (Pavela, 1993; Kumar Shrivastava, 2017).

In other words, HEIs should endeavor to ensure excellence in teaching standards and promote academic integrity amongst the student community. Academic integrity violations have reached beyond the expected level due to the prevalent form of malpractices. Reports indicate that students are violating academic integrity consistently throughout the world (Ives et al., 2017). Hence, globally, academic integrity violations among students have become a growing concern for HEIs (Mustapha et al., 2017).

Scholars revealed that academic integrity violation has further increased in online classes during the COVID-19 pandemic period (Goff et al., 2020). In this connection, teachers are concerned about the possibility that academic integrity in online courses could be compromised (Khalid et al., 2020). The study demonstrates the substantial increase in students' grades in their online post-lecture quizzes compared to their pre-lecture quizzes (Khaled & Patrick, 2022). Likewise, the grading curve in online examinations shows a marked increase in cheating incidents among students because it creates a sense of competition for higher grades. Therefore, ensuring academic integrity in HEIs has become more complicated and challenging for HEIs (Irma & Kusumanto Rd, 2018). In the absence of strict implementation of academic integrity policies, there has been a significant increase in problems related to academic integrity violations in educational institutions throughout the country.

Academic integrity violation not only destroys the reputation of educational institutions but also raises doubt about the credibility of the degree provided to students. Past studies have shown that academic integrity violations harm institutions' reputations as well as their students' learning outcomes (Pettyjohn et al., 2020). Moreover, academic integrity violation not only disrupts classroom decorum but also affects students' ethics and professionalism (Offstein & Chory, 2017). It may also negatively impact institutions, teachers, and students, locally as well as globally. Furthermore, educational qualifications with the lack of proper learning would build a false foundation which would contribute to job inefficiency or unemployment. Students who are engaged in academic dishonesty in the educational institution will have a tendency to continue similar kinds of unethical activities later when they join the professional field. This unethical practice may increase corporate corruption and unethical practices (Khalid et al., 2020). Moreover, academic integrity violations may inspire teachers, future students and researchers to do similar types of impermissible activities in their domain. Thus, it is the right time to give the highest priority and attention to detecting and preventing academic integrity violations, as it is affecting various stakeholders.

The primary objective of this research is to investigate the existing literature related to academic integrity violations in the context of higher education. The author also reviews the volume of different studies, the geographic distribution of the literature, the type of study, the citation impact, the research method, the reasons for academic integrity violations, and ways of preventing academic integrity violations at higher educational institutions. There were past studies related to students' academic dishonesty, for instance,

Susanti et al. (2019) described academic dishonesty as plagiarism or cheating that offers a student an unfair advantage during an assignment or examination. From another perspective, academic dishonesty is described as any behaviour involving dishonesty or dishonesty in academic works, including buying assignments or duplicating and reproducing the work of others without prior approval (Mustapha et al., 2017).

The literature review indicates that there are five broad categories of academic dishonesty, which are, cheating, taking outside help, plagiarism, electronic cheating, and collusion. Therefore, in this study, these five different types of academic dishonesty are studied in the context of HEIs of Malaysia. Figure 2 provides the visual of the five types of academic dishonesty related to the current study.

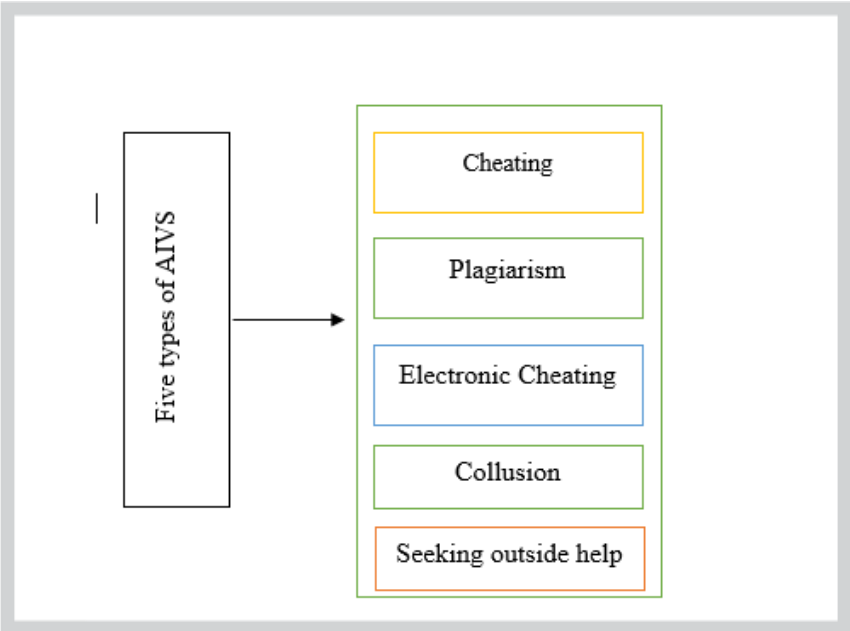

Figure 2.2: **Five types of AIVS**

Source: Developed for the research

2.4.1 Cheating

In academic settings, one of the top ways that the integrity of the institution is breached is through cheating, and in this context, it is deemed to be misconduct. Cheating refers to the unethical utilization of technology and other available resources to gain undue advangates in HEIs (Irma & Kusumanto, 2018). The duplication and submission of the work of another student without their permission also comes under the umbrella of cheating (Garavalia et al., 2007) and is described as the exploitation of prohibited materials, work plagiarizing, or dishonest behaviour (telling lies of being ill or injured as a leverage in tests). Additionally, cheating is often adopted to gain an unfair advantage over other students from the teachers.

Previous studies Zulfakar et al. (2023) indicated that a higher level of cheating exists in examinations compared to other cheating behaviour. There are several forms of cheating, with the inclusion of sending proxy test taking, using prohibited test materials in the form of notebooks/books and interfering with the test results (Chiam et al., 2021). Findings also from the review of the literature showed that students' motivation, academic environment, social factors, and academic culture have a hand in academic integrity violations among HEIs. Thus, in order to enhance the institution's reputation, precautions need to be adopted for the detection and prohibition of students breaching the academic rules. Such students need to be penalized to prevent further cheating behaviour and breaches of academic sanctity norms.

Plagiarism, which is a type of cheating, is promoted through the use of information that is available in online for assignment completion (Jereb et al., 2018). According to Rozar et al. (2020), students may turn to plagiarism, as it

is easy and convenient. Students may also plagiarize because of ignorance, poor attitude, and pressure from limited time, ineptitude and factors related to the institution. On the whole, plagiarism needs to be combated to promote the integrity of academic institutions and to boost the students' sense of integrity, ethical behaviour, commitment, honesty, and perseverance in the face of institutional principles, norms, and standards.

Moreover, cheating has also been described as one of the most common forms of violation of academic integrity. Students attempt to cheat in the academic environment to get undue privileged from their instructors. Previous studies indicate that cheating on examinations reported a higher percentage compared to other situations and behaviour of cheating (Akbarirad et al., 2024).

There are several types of examination cheating, among which are sending a proxy test taker, using unsanctioned test aids such as notes, or books, and tampering with examination results (Chiam et al., 2021). Studies indicate further that the academic environment, social factors, academic cultural and students' motivation may lead to academic integrity violations in HEIs of Malaysia. Therefore, HEIs must act prudently to identify and prevent academic integrity violations to enhance the institutional reputation and learning environment.

2.4.2 Plagiarism

The word plagiarism has been derived from the term "plagiarius, " which means "kidnapper/abductor". Plagiarism basically means claiming credit for creative efforts that belong to someone else, both published and unpublished, through the reproduction or paraphrasing of their ideas, without properly

referencing or crediting the original authors. According to the Oxford Concise Dictionary, plagiarism is the act of taking work/idea from someone else and passing it off as one's own (Shahabuddin, 2009). In the context of education, students often use information that they can find on the web for their assignment materials, and this promotes plagiarism (Jereb et al., 2018). Based on the University of Sussex data published in 2005, the use or duplication of another's written, printed or other form of work without attributing to the original author in any coursework is known as plagiarism (p. 5). The above definitions show that plagiarism essentially involves taking someone else's work without attributing ownership or authorship to him.

The existing literature considers plagiarism as academic dishonesty or a contribution to misleading while taking credit for work that is owned by someone else. In the same way, other authors (Farook et al., 2020; Mbutho & Hutchings, 2021) defined it as a type of academic dishonesty that is considered as fraudulent behaviour, undermining the intellectual property of the author and obtaining rewards for another's work. Viewed from a legal perspective, plagiarism is an act of theft of intellectual work ownership (Gullifer & Tyson, 2010, p. 463). It is a violation of intellectual property rights that are protected through copyright laws. It appears that plagiarism has legal as well as ethical ramifications and is sometimes viewed as a violation of moral-ethical aspects as opposed to legal aspects owing to its nature of being outside of the copyright infringement rights boundaries (Mbutho & Hutchings, 2021). Added to the above, in the context of written assignments, plagiarism is using published work without accrediting the original author (Hodgkinson et al., 2016).

Plagiarism is the top frequently used method in academia which breaches the integrity of HEIs. In Spafford (2011) and Butakov et al. (2012), the authors stated that this has become a huge concern in several fields, namely education, research and industry and it is deemed to be a significant misbehaviour breaching academic ethics and intellectual thought. Moreover, a related study (Gullifer & Tyson, 2010) described the issue as increasingly worsening among institutions, urging them to focus more on its resolution.

The issue being focused on is the increasing prevalence of plagiarism in the technological era, aiding students in claiming someone else's work for their own. Information and communication technology development has led to promoting plagiarism among students at higher educational institutions (Rozar et al., 2020). Stealing another's work breaches the fundamental foundations of the academic community, as it is dishonesty and a normal and decent person possessing morals and values would never engage in plagiarism behaviour. It is thus expected that plagiarism definition and consensus on the penalty or discouragement of the activity is an issue of debate. Also, various sources are attributable to the rise of plagiarism, among which is the failure to cite sources properly, honest mistakes, and divergent views on what comprises suitable academic behaviour/scholastic integrity in different cultures. This stresses on the consideration behind the phenomenon's motivation when addressing the issue and the fact that evidence-based reasoning may not be effective in clarifying the low levels of students that are penalized or expelled from educational institutions for plagiarizing. This era of internet technology has abetted fraudulent and corrupt behaviours among higher learning institution/university students, which has become a source of concern.

Consequently, the increasing and extensive prevalence of plagiarism in several colleges in industrialized nations has directed the focus on technology to prevent the behaviour among students. Regardless of such technological detection of plagiarism, institutions in developed nations are still not leveraging effective plagiarism detection software.

In addition to the above, plagiarism means taking credit for another person's published or unpublished creative works like copying or paraphrasing another author's ideas while not citing or giving proper acknowledgment. According to Hodgkinson et al. (2016), plagiarism on written assignments means using existing material, information and ideas without acknowledging the original author or source. Plagiarism has become a burning issue now in the education, industry, and research community. Therefore, it is considered serious academic misconduct and a violation of academic ethics. As mentioned, the advancement of information and communication technology has given more scope to students to plagiarize in the educational institution (Rozar et al., 2020).

Students are consistently browsing the internet to find relevant information related to their assignments, which also facilities plagiarism (Jereb et al., 2018). Another study conducted by (Cardina & Kristiani, 2022) indicates that the internet has made it easy for students to plagiarize, as they can simply copy and paste any sentence, phrase, or words without proper citation and referencing. There could be many factors leading to students' plagiarism, and these include lack of awareness, negative personal attitudes, lack of competency, pressure, and institutional features. It is important to promote academic integrity in dealing with students' plagiarism.

Students must develop a sense of morality, ethical practice, honesty and devotion, and perseverance to ensure their career development by respecting the rules of plagiarism. Plagiarism directly and indirectly damages the academic and professional reputation of students, which can often lead to their suspension.

2.4.3 Seeking Outside Help

An academic integrity violation is considered a misconduct and unlawful offence no matter how it happens. Students are expected to follow academic integrity while performing any academic tasks in an educational arena.

According to Brown in 1996, defined by seeking outside help means any unethical students' engagement in checking the exam paper before submitting to the invigilator, asking for the content of an exam, or sharing the exam contents with classmates. The term taking outside help has been further defined as video calling friends in the washroom, using phones or drones, prior knowledge of the test content, among others (Chiam et al., 2021). Outside help means visiting a professor and comparing work with classmates before submitting it for the final assessment. This type of cheating incident increases further during the online teaching and learning system. The study also indicates that student learning and information retention capacity have been drastically affected due to the shift to online education.

Students only intend to cheat in the short term to earn good grades. The report further shows that students can easily ask questions via emails or take expert help to solve the questions - actions which are not possible during in-person examinations. Students use calculators and switch between screens while

searching for answers, tape notes to screens and several other activities to cheat. Educational institutions thus need to provide adequate information regarding the consequences of taking outside help and severe punishment for any kind of violation of academic integrity whether they become successful or not.

2.4.4 Collusion

The educational institution designs different forms of assessment methods to evaluate the student's performance and learning. Among all the assessment methods an individual project or assignment is one of them. In any individual assessment, it is expected that students will work individually and submit their assignments individually without taking anyone else help. When students break this principle and share assignments or projects contend with classmates or take help from a ghostwriter, they fall under the obligation of violation of collusion.

The term collusion can be simply defined as collaboration between two or more individuals, in a test, assignment, or group work scenario, where such collaboration has been expressly prohibited or unauthorised (Hodgkinson et al., 2016). In the context of Malaysia, academic integrity violation has become a destructive trait that runs throughout many areas of society. In HEIs of Malaysia, students are not only violating the policy of collusion but also buying important assignments, thesis and presentation slides without studying and preparing themselves (Azim, 2021). It further mentions that the reputations of the country’s higher learning institutions will be negatively affected if students can complete their academic journey without learning and submitting a fake assignment, thesis and presentation. The study further suggested aking punitive

actions against students who are engaged in such types of cheating even after completion of their academic journey to ensure the reputation of HEIs of Malaysia.

2.4.5 Electronic Cheating

In the era of digitalization and the 4th Industrial Revolution, the world has seen enormous development of ICTs (Rozar et al., 2020). The Education industry worldwide has seen the positive and negative effects of information technology development (Irma & Kusumanto Rd, 2018). Academic dishonesty has become easier due to the development of information and communication technology (ICT). This is because technology enables students to share information easily, during examinations through the internet, discussing with friends, and copying content easily which often leads to an increase in students' unethical behaviours on online educational platforms (Goff et al., 2020).

Students misuse electronic devices in educational institutions to commit fraudulent activities. Misuse of technology has made it easier for students to cheat on examinations by looking up, sending, and receiving answers from others and technology is often exploited for plagiarism, since it is easy to copy and paste the information from various sources. In particular, in online learning, there are more opportunities for students to cheat due to a lack of supervision. Mobile phones, personal data assistance, magic calculators, Bluetooth pens, smartwatches, invisible watches and spy Bluetooth earpieces are the most common tools used for cheating in electronic form. The smartphone has made academic cheating easier. According to conducted by Stoner, in 2014, reported that almost two out of every five students engaged in one form of electronic

cheating in their studies. Students have a cell phone that they use for copying assignments, sharing test answers with classmates, and texting others when needed. Furthermore, students use smartphone camera devices to take pictures to keep or share with their friends illegally to facilitate undue advantages. In the context of HEIs of Malaysia, electronic cheating has also increased over the year, especially during the COVID-19 pandemic period.

Research indicates that students are getting undue privileges due to the scope of committing dishonesty in academia (Musa & Ismail, 2021). There are several consequences of academic dishonesty in HEIs. Academic dishonesty not only disrupts classroom decorum, poisons the classroom experience and learning but also affects students' ethics and professionalism. It may also negatively impact institutions, teachers, and students, locally and. Studies indicate that academic dishonesty seriously affects the institution's reputation as well as lowering students' intellectual growth (Offstein & Chory, 2017). In a nutshell, academic dishonesty ultimately destroys the education system and culture of the institution. Therefore, failure to detect and prevent students' academic dishonesty may impact the value of the degree, graduate employability, accreditation, and global recognition (Thomas, 2017). Aside from this, students' academic dishonesty brings an extra burden on teachers to investigate students' academic misconduct. Teachers may need to spend extra hours dealing with students' academic dishonesty cases, keeping the important academic task, like developing lecture materials, improving the academic curriculum, and improving the teaching and learning system. It is also self-degrading as teachers might find themselves challenged in light of their teaching

method and expectations, which will. in return cause more harm to the study system in general.

Academic dishonesty affects students in their personal lives and professional careers. Considering they have gone out of the righteous way of education and fail to have any idea of what they had supposedly studied, this will not bode well for their future successes. The study shows that the outcome of academic dishonesty may break academic integrity and academic learning culture. Additionally, students who take part in academic integrity violations will fail to meet the employers' expectations as well as prove the value of the degree (Cuadrado et al., 2019). In the long term, they will not only harm themselves but also the country.

If it is left unchecked, academic integrity violation will expand significantly among the intrinsically motivated learners as well as in the corporate field of Malaysia. Therefore, it is no doubt that such a violation will hamper the reputation and growth of Malaysian higher education (Mustapha et al., 2017). Moreover, it will affect learning outcomes as well as devalue the hard work of individuals who are earnestly working hard and regularly studying following the ethical path. Evidently, academic integrity violation is a recurring problem in HEIs of Malaysia and thus, it is precisely in this context the researcher aims to determine the factors affecting students' academic integrity in HEIs of Malaysia.

The researcher argues that there is an urgent need to determine the factors leading to the increasing cases of academic dishonesty and offer the best possible alternatives to address the problem. This solution may help to develop the academic integrity policy as well as design appropriate educational

programs for enhancing students' academic integrity. By considering the importance of HE in Malaysia, the researcher attempts to determine the factors affecting the students' academic integrity of HEIs of Malaysia using the data of the public and private universities of Malaysia.

2.4.6 Education of Academic Integrity Programs

Education is a systematic continuous process of developing the innate potentiality, both physically and spiritually, in line with the social and cultural values existing in society. It is one of the fundamental human rights that facilitates individual, social, economic, and cultural development (Robinson et al., 2020). Humans are intelligent creatures who endure with numerous abilities. Education helps to enhance knowledge and develop skills for utilizing human potential and all abilities. Moreover, education plays a vital role in transforming lives and eradicating poverty and ensuring sustainable future development.

The higher educational institution is considered an important agent for promoting sustainability by producing highly qualified and competent future leaders through rendering quality education and developing moral and ethical values (Cardina & Kristiani, 2022). Therefore, higher educational institutions must perform a pivotal role in injecting the importance of ethical behavior among the learners of HEIs in Malaysia. One of the important purposes of higher educational institutions is to produce highly skilled and competent graduates with more ethical values and workplace behaviors to serve the community. According to the International Society for Technology in Education (ISTE), part of being a digital citizen, students should "demonstrate an understanding of and respect for the rights and obligations of using and sharing

intellectual property," including "abiding by copyright and fair use, citing resources, gaining, or giving permission to use (content), avoiding plagiarism, understanding, and using creative commons" (Coldwell-Neilson, 2020). According to Channgern and Malisuwan (2005), educators can avoid copyright violations and legally use copyrighted materials if they understand and comply with the fair use guidelines. The existing literature shows that due to the diverse nature of academic dishonesty and changes in the educational context and unique identity of each person, none of the current academic policies are enough to identify and solve the problem of students' academic dishonesty. For instance, some educational institutions have developed a whistleblowing policy so that students and academic staff report students' academic dishonesty.

Minarcik and Bridges (2015) mentioned that consistent reporting is an effective strategy to prevent academic dishonesty. However, students in most cases decide not to report their classmate's dishonesty, considering the negative consequences of the relationship. Moreover, academic staffs are reluctant to report students' academic dishonesty, considering the extra burden and hassle of moving with all the disciplinary procedures. Therefore, educational institutions need to apply multi-pronged approaches and strategies to reduce students' academic dishonesty. One of the best actionable strategies for an educational institution is to strive for continuous education regarding the bad side of academic dishonesty in improving academic integrity. Moreover, educational programs will guide to design solutions to address the potential breachers of academic integrity in a positive light so that they can understand and rectify themselves.

Academic integrity programs will help to improve student learning, prevent students' academic dishonesty, and reduce the teacher's workload on the investigation of students' academic misconduct. Bluestein (2015) endorsed the need for students' motivation to prevent academic dishonesty and Thomas (2017) stated that developing students' self-awareness regarding their strengths and weaknesses through education can help to reduce the cases of academic dishonesty. Previous studies also proved that additional courses and tutorials are effective at increasing students' knowledge of academic integrity and reducing academic dishonesty (Curtis et al., 2013; Cronan et al., 2017). Students who have completed the course or tuition are less likely to engage in academic dishonesty through peer influence (Stephens et al., 2021). It is evident that taking an educative approach can help students to improve their knowledge and understanding of academic integrity policy. On the whole, educative programs may help to reduce the cases of violation of academic integrity, increase student engagement, and reduce teachers' workload in an investigation of student dishonesty. Such programs may help to address the issue of violation of academic integrity in HEIs of Malaysia.

2.5 Literature Gap

Malaysia, situated in Southeast Asia just north of the equator, gained independence from British rule in 1957 (Wells & Magalhaes, 2007). The nation comprises 13 states, including Peninsular Malaysia (West Malaysia), and the states of Sabah and Sarawak, collectively known as East Malaysia. Additionally, Malaysia encompasses the Federal Territories of Kuala Lumpur and the island of Labuan. As a diverse and multi-ethnic federation, the country's

population of approximately 32.7 million includes 29.7 million citizens and 2.96 million non-citizens (Khan et al., 2021). Its rich diversity is reflected in its ethnic makeup, which includes Malays, Chinese, Indians, and indigenous Bumiputra communities (Victoria & Ameer, 2018).

Since independence, Malaysia's government has placed a strong emphasis on advancing the quality of higher education, investing significant resources to modernize the educational landscape. Over the past few decades, Malaysia's education system has evolved, reflecting these ongoing efforts. While federal authorities retain oversight of the overall system, local state and territorial education departments handle specific regional matters. A major milestone occurred on March 27, 2004, when governance over higher education was separated from the Ministry of Education (MOE) to foster modernization, resulting in the creation of the Ministry of Higher Education (MOHE). This separation allowed the MOE to focus on pre-tertiary education, while MOHE handled higher education matters (Sirat, 2022).

Academic integrity is essential for fostering quality education in higher institutions, requiring a commitment to honesty and ethical behaviour from both students and academic staff (Murumba & Alari., 2023). However, breaches, ranging from unintentional plagiarism to deliberate cheating, continue to present challenges. These issues are often exacerbated by varying cultural interpretations and unclear definitions of academic standards, leading to misunderstandings and unethical behaviour.

The literature identifies several barriers to promoting academic integrity, such as ambiguous terminology, cultural differences, and inconsistent policies (Openo., 2019). Research indicates that strict punishment and

implementation of academic honour code reporting are often insufficient on their own (Tatum, 2022). A growing body of evidence suggests that a proactive, continuous educational strategy is more effective in fostering a comprehensive understanding of academic integrity among students (Akin and Johnson, 2018). The purpose of this research is to investigate the effectiveness of an academic integrity tutorial in improving undergraduate students' understanding of academic integrity in the context of higher education in Malaysia.

In this research, the researcher aims to conduct an experimental study, wherein which the participants are divided randomly into the treatment group and control group. At the beginning of the experiment, participants attached to the treatment group and control group are asked to complete a pre-treatment survey. Education on academic integrity covering topics, understanding university rules, consequences for cheating, plagiarism, taking outside help, electronic cheating, collusion, developing positive attitudes and motivation for learning, managing social and cultural expectations, and referencing and citations, among others, are instructed to the treatment group whereas the control group receives no information on academic integrity. At the end of the treatment, participants are asked to complete a post-experiment survey. The study is unique in the context of HEIs of Malaysia due to the methodical design and implementation of researcher theories. This is expected to contribute new insights to existing literature, both theoretically as well as methodologically. This study provides methodological insights via a structured intervention-based approach to assess academic integrity in a Malaysian private higher education institution (PHEI), facilitating a precise evaluation of the factors involved. Theoretically, it enhances our understanding of academic integrity by

demonstrating how modelling ethical behaviour can mitigate student misconduct.

The researcher strongly believes that the findings from this study will help to identify the most prominent causes behind the violation of students' academic integrity. The researcher is optimistic that the findings of the study will be useful for various stakeholders in promoting academic integrity in HEIs of Malaysia. This research contributes to the ongoing discussion of using academic integrity tutorials to enhance students' adherence to ethical standards. By assessing the impact of such tutorials, the study seeks to offer practical strategies that educators can integrate into their teaching methods. The findings are expected to inform curriculum developers and policymakers, supporting the creation of comprehensive academic integrity programs in higher education.

This study aims to address gaps in current research by evaluating the impact of an academic integrity tutorial on student behaviour and exploring strategies to enhance institutional policies and practices. Specifically, it will investigate effective methods for improving students' understanding of academic integrity and reducing violations in higher education.

2.6 Proposed Conceptual Framework

Based on the literary research and considering the theoretical perspective. The following conceptual framework is developed, the study framework comprises the academic environment, social factors, academic culture, student motivation, academic integrity education programs, and AIVs at PHEIs in Malaysia (see Figure 3). The framework also sheds light on the moderating role of academic integrity education programs in the above-

mentioned relationship: moreover, the study the (gender, CGPA and academic year) as control variables.

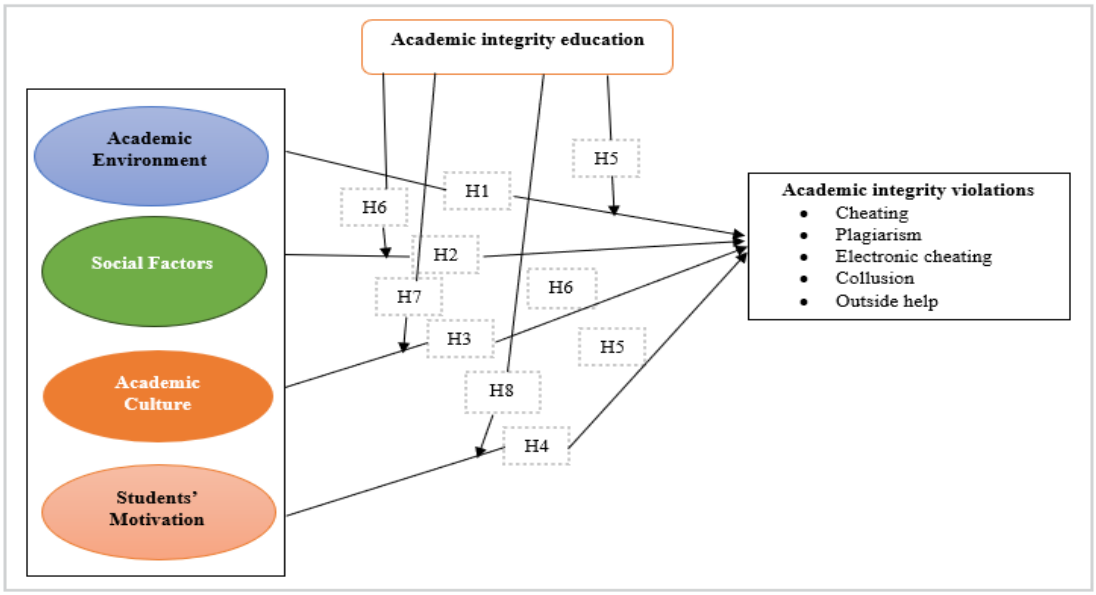

Figure 2.3: Proposed Conceptual Framework.

Source: Developed for the research

In order to investigate the causes of academic dishonesty in Malaysia PHEIs, this study will establish connections between the academic environment, academic culture, social determinants, and student motivation. Furthermore, the results of the programme on academic integrity education will help universities create educational intervention programmes that aim to improve students' academic integrity through awareness-raising, instruction, and training.

2.7 Hypothesis Development

In the field of research and data analysis, a significant fundamental concept is the relationship measurement, as this enables the understanding of the interaction of the factors and their influence over one another. In different fields of study (sociology, science, and economics), it is crucial to acknowledge and understand the relationships among the variables in order to reach meaningful conclusions upon which informed decisions can be made. Additionally, variables are the basic elements of scientific examination, and they are representations of measurement conditions or characteristics that need to be examined.

In the context of this study, the academic environment, social factors, academic culture, and student motivation constitute the independent variable, academic integrity violation constitutes the dependent variable, while the academic integrity education program constitutes the moderating variable. The exploration of the relationships among the above variables may furnish information on the academic integrity violation in HEIs Malaysia. Accordingly, the next subsections present the relationships among the variables while highlighting their role in explaining the investigated phenomenon.

2.7.1 Academic environment to academic integrity violations

There is a significant relationship between the academic environment and academic integrity violations in higher education institutions based on past research findings. To begin with, Murdock and Anderman (2006) revealed that students who are more tolerant of cheating in their views have a higher likelihood of cheating and such a view can be affected by the environment in

the classroom. In addition, Rabourn (2024) found similar findings in that classroom environments that are characterised as less personalised , satisfying and task-oriented are significantly related to higher cheating incidences. Moreover, in Broeckelman-Post (2008), the author found faculty to have a key role in forming the behaviours of students and that teachers who promote awareness of plagiarism and make use of safeguards against it have a higher likelihood of being more vigilant in observing dishonesty. Lastly, the honour code's effectiveness in mitigating cheating and the effect of peer reporting requirements on the behaviour of students were stressed by McCabe et al. in their study in 2001.

All the above studies underline the significance of developing a positive and ethical academic environment that prevents dishonesty in academic activities. Furthermore, the influence of the academic environment on academic dishonesty is facilitated through education digitalization, and in this context, the presence of dishonest peers also has a hand in precipitating dishonest academic actions. Other factors that have a key role in these actions include individual psychological factors like attitudes and experience, and contextual factors, such as institutional policies and the actions of instructors. According to Cheng (2021), ethical attitude and climate also have a role in a positive ethical climate supporting the negative ethical attitude-academic dishonesty relationship (Cheng, 2021). In this case, self-regulated learning has a negative impact on academic dishonesty, with the key aspect being the formation of the environment. Lastly, a relationship exists between college and workplace dishonest behaviours, which means academic dishonesty is not limited to educational institutions but is carried over to professional environments.

H_1: There is a positive relationship between the academic environment and academic integrity violations.

2.7.2 Social factors and academic integrity violations

There are various factors that have been highlighted in the literature as drivers of academic dishonesty in higher education institutions. According to Asgher et al. (2023, among the key factors are competition, social rejection, and societal pressure and based on a similar study line, Daumiller et al. (2019) revealed that performance goals and social norms are also key factors. Meanwhile, in McCabe's study of 1997 highlighted the role of disapproval from peers and in Maloshonok's (2019) study, the author found subjective norms as a top predictor of dishonesty in institutions. Individual attitudes, academic experience, and contextual factors (e.g., institutional policy) were mentioned as dishonesty drivers by Bezgodova (2021), while cultural differences were highlighted by Hendy (2021). Meanwhile, Amponsah et al. (2021) revealed that perceived peer dishonesty and cheating acceptability, along with cultural and psychological variables (e.g., distress, perfectionism and self-control, are among the top drivers of the same. The above studies highlighted the complex interrelationship among social influences on academic integrity, which shows the requirement for interventions and support mechanisms to mitigate dishonesty.

H_2: There is a positive relationship between social factors and academic integrity violations.

2.7.3 Academic culture and violation of academic integrity

There is a close relationship between academic culture and dishonesty within which students perceive cheating as an acceptable behaviour. Such behaviour can continue in the professional lives of students being that there is a correlation between academic and workplace dishonesty. A high level of academic dishonesty is driven by various factors with the inclusion of peer influence, moral reasoning, and institutional impact (Wideman, 2008). In addition, there is a significant relationship between academic dishonesty and low learning-orientation, high-grade orientation and low academic self-efficacy. Based on past findings, it can be stated that interventions are required to tackle the causes behind academic dishonesty.

Based on academic culture-academic dishonesty dedicated studies, there is a complex interplay of factors involved and, according to Hendy (2021), significant predictors of academic dishonesty include perceived peer dishonesty, perceived cheating penalties, and justification for academic dishonesty, with the significant portion of the variance explained by cultural differences. In the same study calibre, Amponsah et al (2021) showed varying degrees of the importance of factors, including perfectionism, self-control, distress, and independent self-construal in their prediction of academic dishonesty throughout different countries. Moreover, ethical attitude and ethical climate had key roles in influencing academic dishonesty in Cheng's (2021) study, with ethical climate significantly supporting the negative ethical attitude-academic dishonesty relationship. In Dremova's (2023) questionnaire study, the author measured the presence of students drawing on various orders of worth to justify or criticize the presence of academic dishonesty – such a questionnaire

can be used as a tool to oversee and resolve the dishonest behaviour issue among universities.

H_3: There is a positive relationship between academic culture and academic integrity violations.

2.7.4 Students' motivation and academic integrity violations

Studies dedicated to examining the relationship between student motivation and academic integrity violations included one conducted by Krou et al (2019), whereby the author found a negative relationship between academic dishonesty and both intrinsic motivation and self-efficacy, and a positive one between academic dishonesty and both motivation and extrinsic goal orientation. Meanwhile, academic integrity violations were found to be significantly correlated with both intrinsic and extrinsic motivation. Furthermore, academic dishonesty is also correlated with personality traits like impulsivity and fight-flight-freeze behaviours. On the whole, the above studies show that intrinsic and extrinsic motivation and personality traits all have a hand in predicting academic dishonesty.

H_4: There is a positive relationship between student motivation and academic integrity violations.

2.7.5 The Moderating Role of Academic Integrity Education

Academic integrity education, including copyright awareness, can moderate the influence of the academic environment, social factors, student motivation, and academic culture on integrity violations. The expansion of digital education has heightened the need for strict copyright adherence. Improved copyright awareness helps students grasp the consequences of

dishonest behaviour, thereby reducing violations (Tella and Oyeyemi., 2017). As AI becomes more integrated into education, ethical challenges have increased, making effective training on AI ethics and copyright compliance crucial for maintaining academic integrity. Institutions need to educate students and staff about these issues to promote respect for intellectual property. Therefore, academic integrity education is expected to lessen the impact of the academic environment, social factors, and motivation on integrity violations. We hypothesize:

H5: Academic integrity education moderates the effects of (a) academic environment, (b) social factors, (c) academic culture, and (d) student motivation on academic integrity violations, with higher awareness reducing the influence of these factors.

Delimitation of the study: The objectives and questions of the tutorial do not cover AI tools such as ChatGPT because it was released on November 30, 2022, and the first experiment was conducted in January 2023 before AI technologies gained widespread popularity and use. Therefore, ChatGPT and similar AI tools are outside the scope of this study.

2.8 Summary of the Chapter

This chapter has presented the literature review on the factors affecting the student's academic integrity in HEIs of Malaysia. The literature is related to the academic environment, social factors, academic culture, students' motivation, and education of academic integrity programs on the violation of academic integrity in HEIs of Malaysia. The literature has also summarized and synthesized self-determination theory, social learning, cultural relativism

theory, and activity theory in the context of the study variables. Chapter 3 of this report will describe the researcher's study methodology.

CHAPTER THREE RESEARCH METHODOLOGY

3.1 Introduction

This chapter discussed the research methodology of this study. A research method is one of the important elements of a thesis or dissertation. It includes the data collection procedures necessary for drawing a logical conclusion. According to Neuman (2003), methodological inquiry consists of questions, problems, hypotheses, data, and data analysis or interpretation of the data. This section covers the research design, providing an overview of the topic. It also covers the research instruments, population and sampling, measurements and instruments, data collection procedures, and data analysis methods.

3.2 Research Philosophy

Research philosophy, although often overlooked, has a profound impact on the research process itself. There are four main types of research philosophy: postpositivist, constructivist, transformative, and pragmatic (Saunders et al., 2019). The present study adheres to the core principles of objectivist ontology and positivist epistemology, also known as positivist/postpositivist research, empirical science, and post-positivism.

This philosophical standpoint aids in identifying potential causes, effects, or outcomes. Burrell and Morgan expounded in 1979 that philosophical

assumptions encompass epistemology, ontology, human nature, and methodology. Slevitch (2011) defines ontology as the examination of reality or the constituents that comprise reality. It explores whether there exists an autonomous social reality or multiple context-specific realities. Ontology refers to presumptions about the nature of reality and the extent of understanding it. Neuman (2014) asserts that objectivist ontology postulates an independent reality. In the proposed research study, the researcher and the research subject are regarded as distinct entities.

The term "epistemology" derives from the Greek words "episteme" and "logos." It concerns itself with the nature of knowledge and the means by which we comprehend and acquire knowledge about social reality. Bell et al. (2022) define epistemological matters as inquiries into what forms of knowledge should be deemed acceptable within a discipline. Epistemology encompasses various avenues for acquiring knowledge, such as perception, sensation, intuition, reason, and even faith. It also seeks to redefine knowledge beyond the conventional notion of "justified true belief." As Neuman (2014) explains, positivism involves employing deductive logic and precise empirical observations to discover and verify probabilistic causal laws that predict general patterns of human behaviour. A fundamental tenet of positivism is to develop the most objective methods conceivable for approximating reality. In this proposed study, the research objectives will be accomplished through a structured approach that combines deductive logic with precise empirical observations. This philosophy is also known as a reductionsit approach, wherein ideas are deconstructed into discrete variables for testing hypotheses and research questions. The postpositivist approach, which focuses on acquiring

knowledge through the observation and measurement of objective reality, is pertinent to this research.

3.3 Research Design

Research is a methodical investigation into an examination of materials and sources with the aim of establishing facts and reaching a logical conclusion. According to Saunders et al. (2019) research is a systematic examination of a phenomenon that researchers undertake to provide fresh insights into the existing body of literature. Furthermore, Gratton and Jones (2010), define it as a systematic process of discovering and advancing knowledge. Prior to conducting any research, it is essential for the researcher to determine the purpose of the research design. As stated by Creswel and Poth (2018), research designs encompass the specific procedures involved in the research process, such as data collection, data analysis, and report writing. In essence, research design is defined as the approach researchers employ to establish the conditions for data collection, analysis, and the written presentation of research findings. The researcher carefully selects the appropriate research methodology based on the characteristics and objectives of the study. Moreover, factors such as the type of analysis, the goals of the study, and the nature of the investigation are taken into consideration when determining the most suitable research design. The research method varies depending on the nature of the study. Research designs are classified into descriptive, exploratory, and causal.

Descriptive research is conducted to provide a comprehensive representation of the characteristics of "objects, individuals, groups, organizations, or environments." This type of research seeks to address inquiries

pertaining to the identities, quantities, periods, locations, and modalities associated with the subject. Exploratory research, on the other hand, is undertaken to explain puzzling scenarios or uncover potential business prospects. Its main objective is to examine a research subject that has not been previously investigated, thereby contributing to the clarification of ambiguous issues. In contrast, causal research is carried out to ascertain the extent and nature of cause-and-effect relationships between two or more variables (Zikmund et al., 2013). The researcher has selected a casual research design for this study in order to examine the cause-and-effect relationships between the factors that influence academic integrity in HEIs in Malaysia. In this study, the research onion model developed by Saunders et al. (2019) is utlised, as depicted in Figure 3.1.

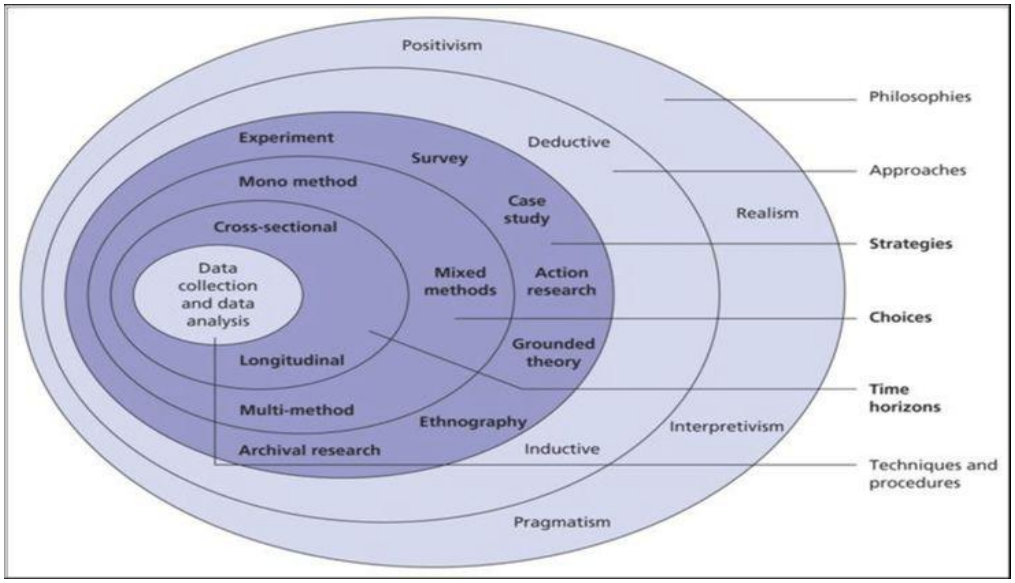

Figure 3.1: Research Onion (Saunders et al, 2019).

In this study, the researcher adopted a positivist philosophy and deductive approach to effectively assess the quantitative data. With this

approach, the researcher was able to analyse the data collected from the research field. According to Woiceshyn and Daellenbach (2018), deduction involves "moving from the general to the particular, starting from a theory, deriving hypotheses, testing them, and revising the theory." Additionally, Gratton and Jones (2010) define the deductive approach as testing a predetermined theory, explanation, or hypothesis to establish a hypothesis using existing theories.

To achieve the research objectives, the available data is analyzed to determine whether to accept or reject the hypothesis. In this regard, Saunders et al. (2019) highlighted some important characteristics of the deductive approach. Firstly, it allows for examining the causal relationship between variables and concepts. Secondly, it enables the use of highly organized techniques to facilitate the relationship between variables. Finally, operationalizing ideas in a quantitative point of view allows for the assessment of facts.

The experimental study is a quantitative design used to determine probable cause and effect. Creswell (2012) states that the experimental research design is the most appropriate quantitative research design for determining the cause-and-effect relationship of a research phenomenon. According to Fraenkel and Wallen (1990), experimental design involves comparing outcomes between the experimental group and the control group. In this study, a quasi-experimental design was used (Table 3.1).

Quasi-experimental refers to a study type where the researcher does not have complete control over assigning subjects to treatment and control groups. This research method can truly test hypotheses regarding cause-and-effect relationships.

Table 3.1: Quasi-experimental design

Group	Test	Treatment	Test
Experimental Group	Pre-test	Received Treatment	Post-test
Control Group	Pre-test	No additional treatment	Post-test

Source: Developed for the research

3.4 Population and Sampling

Context of the participants

For this study, primary data was collected for analysis. The research was conducted among the undergraduate students of three different courses from January 2023 to May 2024 in business school at a private higher education institution located in Selangor, Malaysia. Each batch of respondents was unique, as confirmed by the records maintained by the course instructors.

The institution had a combined undergraduate and graduate population of nearly 15000 students. In terms of enrolment breakdown, roughly 9000 were undergraduate students and 6000 were graduate students. At present, this university offers 138 academic programs across nine faculties, four centres, and three institutes. This university had been selected for this experimental study on academic integrity violations for several reasons. Firstly, it boasts a diverse student population in terms of academic disciplines, cultural backgrounds, and educational experiences. underscores Secondly, this university has a commitment to fostering an academic environment characterised by integrity. Consequently, studying academic integrity within the context of this

university's academic culture, policies, and practices offers a unique perspective to this present study. Several factors contributed to the decision to focus on business school students for this study. The business department places a paramount emphasis on producing ethically and morally sound graduates. Furthermore, this business school aims to develop future researchers by incorporating a business research methodology course into its academic curriculum. Therefore, this study aligns with the immediate needs of the school, making it a suitable choice for this research.

Population

Population refers to a large collection of data, in which all items share the same characteristics. It can be a nation or a group of people with a common trait. According to Ary et al. (2010, p. 148), the larger group from which generalizations are made is called a population. In statistics, a population is the pool of individuals from which a statistical sample is drawn for a study. Essentially, any selection of individuals grouped together by a common feature can be considered a population. In most cases, the term "population" refers to a group of people or living things. However, statisticians use the term to refer to the group they are investigating. Therefore, a population is categorized as an item or subject with a specific area, amount, or characteristic that the researcher chooses to investigate and draw conclusions from.

For this study, the targeted population consists of all enrolled students in the Course-1, Course-2 and Course-3

Sampling

The sample is the subset of the population. It draws one or more observations from the population. Sampling is the process of selecting a sample from the population. According to (Ary et al. (2010), the sample is a portion of a population. It means that the sample is a part of the population that was observed. The researcher used cluster sampling in the experiment. Cluster sampling is sampling, which is not individual but a group of individuals who are naturally together (Ary et al., 2010). The researcher took only three classes. as the samples in this research are shown in Table 3.2.

Table 3.2: Population of this study

Course No	Intake/Year	Number of Students
Subject- 1	January 2023	95
Subject-2	October 2023	68
Subject-3	January 2024	92
Total		255

Source: Developed for the research

3.5 Research Instruments

A proper instrument is important for a researcher. It is a tool used to collect the data from the targeted respondents. The term instrument in a study refers to any kind of tools used by the researcher to get the information or data. Arikunto (2013) states an instrument is a tool when conducting research using certain methods. Moreover, According to Ary (2010), “Selecting appropriate and useful measuring instruments is critical to the success of any research study.” Since the study was the quasi-experimental, a pre-experimental survey,

quiz test and post-experimental survey were the instruments to collect the data (See Appendix 4). According to Ary (2010), "A test is a set of stimuli presented to an individual in order to elicit responses on the basis of which a numerical score can be assigned." It means that a test is an instrument given by the teacher which aims to identify the students' scores. In this research, the test was intended to investigate the effect of academic integrity tutorials on students' behavioural changes in academic integrity violations. Therefore, the researcher had designed 3 different tests such as pre-experimental tests, quiz tests and post-experimental tests. The purpose of giving a pre-experimental test was to investigate the existing level of academic integrity before applying the treatment. Moreover, the aim of giving experimental quiz was to see the learning and impact of experimental lectures and see how much knowledge the students gathered during the treatment period. Furthermore, the aim of the post-experimental survey was used to see the overall enhancement of students' knowledge of academic integrity.

Pilot Test

A pilot study is preliminary research that is carried out as trails before the real data collection. This study is a prototype of the real study designs to determine the most effective approaches for conducting the real study at scale. According to Thabane et al. (2010), a pilot study is a feasibility study, test, preliminary, trial or "try out" investigation. Moreover, Moore et al. (2011), defined the pilot study as "preparatory studies designed to test the performance characteristics and capabilities of study designs, measures, procedures, recruitment criteria, and operational strategies that are under consideration for use in a subsequent, often larger, study." It is a mini version of a full-scale study

or feasibility study of the actual study. A pilot study is helpful to identify potential solutions to problems that may arise during the actual study. The Pilot test evaluated the validity and reliability of the questionnaire. This is a chance for researchers to minimize errors and find out if there is any ambiguity regarding the questionnaire items. Consequently, prior to its distribution, researchers make revisions and enhancements to the final questionnaire. To assess a questionnaire's credibility, the Cronbach's Alpha rule of thumb is used, which is shown in Table 3.3.

Table 3.3: Rule of Thumb about Cronbach's Alpha coefficient size

Alpha Coefficient Range	Strength of Association
Less than 0.6	Poor
0.6 to < 0.7	Moderate
0.7 to < 0.8	Good
0.8 to < 0.9	Very Good
0.9 and above	Excellent

Source: Sekaran and Bougie (2016)

The researcher conducted a pilot study at the business faculty of a PHEI at Sungai Long Campus. According to Whitehead et al. (2014), a pilot study requires a minimum of 30 respondents. Julious (2005) concluded that 12 participants are sufficient for a pilot test. The purpose of this small-scale study was to identify any errors, assess participants' comprehension of the questions, and prevent misinterpretation. By analyzing the pilot study results, the researchers were able to adjust the study's objectives, methodology, and research questions. Additionally, this study helped the researchers estimate the time, money, and resources needed to carry out the actual study on a larger scale.

The Statistical Project for Social Science Version 22.0 (SPSS) was used to conduct consistency tests on the collected data, ensuring its reliability. The Cronbach's alpha values for all constructs were above 0.6, indicating good reliability. It is important to note that the information gathered in this pilot test were excluded from the final assessment of actual data of the study. The pilot test results are presented in Table 3.4.

Table 3.4: Results of Reliability of the Pilot Study [Cronbach's Alpha Analysis]

Construct	Cronbach's Alpha	Number of Items
Academic Integrity Violations	.817	17
Social Factors	.826	08
Academic Culture	.719	02
Student Motivation	.706	16
Academic Environment	.755	13
Understanding of Academic Integrity	.611	15

Source: Developed for the research

Construct validity: A panel of 5 experts had validity in the pre-post experimental survey questionnaire, quiz test questionnaire, and content of the intervention. (See Appendix 4)

3.6 Data collection and experimental treatment procedures

Stage 1: Pre-experimental Survey

This experimental study was conducted at a private higher education institution in Malaysia. Each experiment lasted for 14 academic weeks within one trimester. In week 1, the researcher randomly divided the participants into an experimental group and a control group. The researcher then explained the purpose of the study and collected written consent from the participants, clarifying that participation was voluntary. According to the design of this study, the participants in the experimental group received additional lectures, each lasting 90 minutes, covering topics related to academic integrity, influencing factors, plagiarism, how to avoid plagiarism, and the institutional honour code and policy. On the other hand, participants in the control group received no treatment and continued with their regularly assigned classes. Following this, the researcher conducted a pre-experimental survey using a questionnaire (See Appendix 5) to assess the participants' intelligence levels in relation to factors associated with academic integrity violations, as well as their knowledge of academic policies and the honour code.

Stage 2: Experimental treatment (Intervention)

This intervention consisted of a structured educational programme (See Appendix 1) aimed at increasing participants' awareness and comprehension of academic integrity norms. The tutorial covered topics such as the fundamentals of academic integrity, violations of academic integrity, factors influencing students' academic integrity, the basics of plagiarism, proper citation methods, how to avoid plagiarism, understanding collusion, and the importance of ethical behaviour in academic settings. The purpose of the course is to help participants enhance students’ basic understanding of the term "academic integrity"; develop their capabilities to avoid academic dishonesty; provide in-depth knowledge

and skills needed to understand the concept of plagiarism; enhance students' knowledge and understanding of academic plagiarism; develop students' capacity for writing plagiarism- and error-free academic content; and equip them with the necessary knowledge and skills to address issues of plagiarism while helping students develop the skills needed to act according to the rules and policy of academic honor code.

Stage 3 Experimental Quiz

During the sixth week of each session, all participants, including those in the experimental and control groups, were mandated to complete a quiz. The objective of this quiz was to evaluate their comprehension and knowledge of academic integrity. It comprised 10 questions, encompassing multiple-choice and scenario-based formats (See Appendix 2). The quiz test was designed and distributed by using a Microsoft Form for respondents. The primary purpose of administering this quiz was to assess the learning outcomes of the academic integrity intervention on the participants' understanding and capacity to implement ethical academic practices.

Stage 4: Post-Experimental Survey

In week 12, participants from both groups were instructed to complete a post-experimental survey questionnaire (See Appendix 6). This was designed and distributed by using Microsoft Forms on respondents. The purpose of this questionnaire was to evaluate any changes in their attitudes and behaviours toward academic integrity following the intervention period. The post-experimental survey questionnaire utlised similar items as the pre-experimental survey, allowing for a comparison of participants' responses before and after the intervention. It also incorporated open-ended questions to gather qualitative

feedback on participants' experiences with the academic integrity tutorial and any perceived modifications in their behaviour or attitudes toward academic integrity. The primary aim of this questionnaire was to ascertain the educational outcomes attained through the two study approaches. Similar to the pre-experimental survey, the post-experimental survey questionnaire comprised multiple-choice questions.

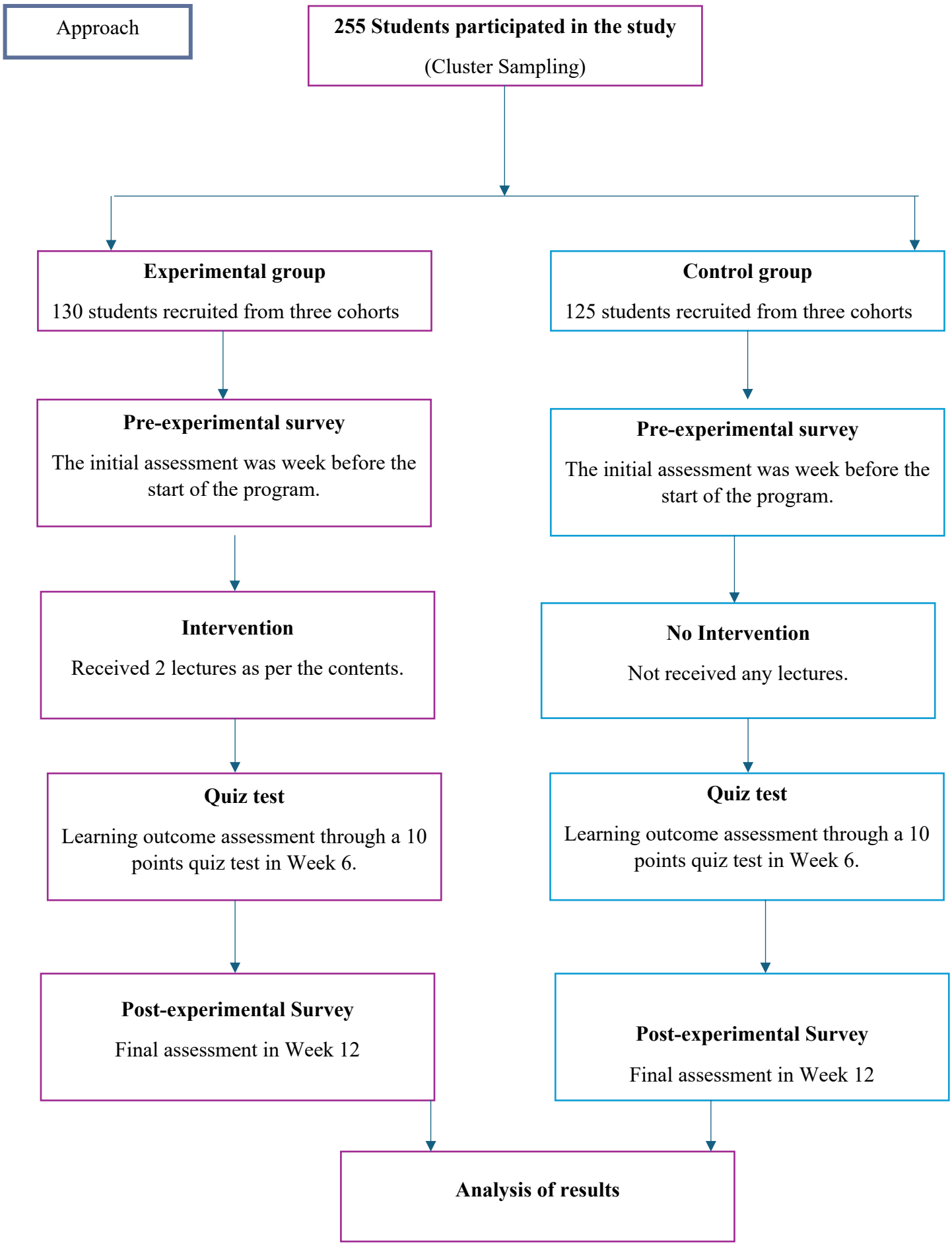
Approach
255 Students participated in the study
(Cluster Sampling)
Experimental group
130 students recruited from three cohorts
Control group
125 students recruited from three cohorts
Pre-experimental survey
The initial assessment was week before the start of the program.
Pre-experimental survey
The initial assessment was week before the start of the program.
Intervention
Received 2 lectures as per the contents.
No Intervention
Not received any lectures.
Quiz test
Learning outcome assessment through a 10 points quiz test in Week 6.
Quiz test
Learning outcome assessment through a 10 points quiz test in Week 6.
Post-experimental Survey
Final assessment in Week 12
Post-experimental Survey
Final assessment in Week 12
Analysis of results

Figure 3.2: Flow diagram of the stages of the experiment

Source: Developed for the research

3.7 Scale Measurement

3.7.1 Nominal Scale

According to Rassel et al. (2020), the nominal scale is the first level of the measurement scale where numbers are used as "names." The nominal scale is simple and useful because it lacks numerical factors or integrability. Higher education institutions in Malaysia enroll students from different genders as well as races. Moreover, international students are also studying in higher education institutions in Malaysia. Therefore, after considering factors such as the academic environment, social factors, academic culture, and students' motivation, as shown in Table 3.5.

Table 3.5: Nominal Scale

Gender	Male
	Female
CGPA	3.50-4.00
	3.00-2.99
	2.50-2.99
	2.00-2.49
	Below 2.00

Source: Developed for the research

3.7.2 Ordinal Scale

The ordinal scale is a type of measurement scale used to represent the order of variables rather than the differences between them. These scales typically reflect non-mathematical concepts such as frequency, pleasure, happiness, and levels of pain. The term 'Ordinal' is easy to remember because it sounds like 'Order.' In this study, the level of education and CGPA have been measured using an ordinal scale. An example of this ordinal scale can be found in Table 3.6.

Table 3.6: Ordinal Scale [Questionnaire]

Level of Education	
1st year undergraduate	1
2nd year undergraduate	2
3rd year undergraduate	3
4th year undergraduate	4

Source: Developed for the research

3.7.3 Interval Scale

The term “interval scale” refers to a level of estimation at which the constituent properties of a factor are quantified in the form of numerical ratings or values and at which the distances between them are equalized (Salkind, 2010). A gap can exist between two consecutive attributes, and gaps are constantly accessed. Likert scales are often used in surveys to assess responses.

In this study, the researcher used a Likert scale, which includes sections B to G and includes five basic measures: Strongly Disagree, Disagree, Neutral, Agree, and Strongly Agree closed. Using the 5-point Likert scale presented in

Table 3.7, respondents can express whether they disagree or disagree with the statements made in the questionnaire.

Table 3.7: Interval Scale [Research Questionnaire]

Questionnaire		Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
SL	Question	1	2	3	4	5

Source: Developed for the research

3.8 Data Processing

Data processing includes a range of activities. It is divided into four different phases, such as data checking, editing, coding, and transcribing. The researcher carried out each step carefully to obtain realistic and unbiased results. The following paragraphs are related to data checking, editing, coding and transcribing data.

3.8.1 Data Editing

Data editing is used to ensure that all submissions are accurate and full and that the obtained data is error-free. For this study, each participant needs to complete three rounds of surveys [pre-experimental surveys, quizzes, and post-experimental surveys] to be eligible for data analysis. The researcher checks each set of responses using Microsoft Excel. The researcher deleted the responses that were incorrect or the respondents who failed to complete three rounds of the survey during the data collection phases. After performing this task, the researcher prepared the final list of responses in a Microsoft Excel file for data coding.

3.8.2 Data Coding

The data was coded to ensure that respondents had every opportunity to answer the questionnaire. The SPSS software was utilised to code all the data collected for this study. The responses to each demographic question posed in Section A of the questionnaire are coded in Table 3.8.

Table 3.8: Data Coding [Demographic Questions]

SL	Demographic Question	Options	Coding
1	Gender	Male	1
		Female	2
		International	2
2		3.50-4.00	1
	CGPA	3.00-2.99	2
		2.50-2.99	3
		2.00-2.49	4
		Below 2.00	5

Source: Developed for the research

In this study, the researcher used a Likert scale, which includes sections B to G and includes five basic measures: Strongly Disagree, Disagree, Neutral, Agree, and Strongly Agree completely closed. Using the 5-point Likert scale presented in Table 5, respondents can express whether they disagree or disagree with the statements made in the questionnaire which were coded as shown in Table 3.9.

Table 3.9: Interval Scale [Research Questionnaire]

Likert Scale	Coding
Strongly Disagree	1
Disagree	2
Neutral	3
Agree	4
Strongly agree	5

Source: Developed for the research

3.8.3 Data Transcribing

The researcher gathered the primary data from the intended respondents using a Microsoft form. The raw data has all been manually transcribed into Microsoft Excel after the data has been edited, verified, and coded. The process of data transcribing entails coding the gathered information and entering it into the software. To run and analyze all the data for this research, we chose to use SPSS. Numerous data analysis projects have previously used these programs. For this reason, the researcher chose this program. Before starting the analysis, the researcher made sure everything was in order by double-checking that the data entered into the computer matched the data collected in the questionnaire.

3.9 Proposed Data Analysis Tool

Data analysis is the process of applying logic to understand the data that has been collected from the field. Zikmund (2013), defines data analysis as the process of using logic to make sense of collected data to make a logical decision to achieve the research objectives. Data investigation is the of organising unstructured data into a form that can be used to answer our research questions. Statistical analysis can be used to demonstrate from a basic frequency distribution or a more sophisticated multivariate analysis method such as multiple regression. Data was analyzed using the statistical Package for Social Sciences (SPSS) version 22 software.

3.9.1 Descriptive Research

A descriptive study aims to characterize a population, situation, or phenomenon accurately and systematically. In this study, the researcher utilises

descriptive analysis to identify and interpret the gathered data in order to achieve the research objectives (Hayes, 2021). Additionally, descriptive analysis facilitates the presentation and understanding of the collected data in the simplest manner possible.

3.9.2 Inferential Analysis

Inferential analysis offers evidence for drawing conclusions based on sample data. The results determine how the independent and dependent variables relate to one another. The results will show how well or poorly the independent and dependent variables are related to one another.

3.9.3 Reliability Test

The reliability test assesses both the accuracy and consistency of results for the constructs (Malhotra & Peterson, 2006). The reliability of the questionnaire items was evaluated using Cronbach's Alpha, with values exceeding 0.70 indicating that the items are considered reliable (Considine et al., 2006).

3.9.4 Normality Test

According to Al-Hujran et al (2014), research data are required to be distributed normally. The normality test was conducted using Skewness and Kurtosis. The value of skewness of ±1 and kurtosis of ±2.2 (Hair et al., 2010).

3.9.5 Moderator Analysis

Multiple Linear Regression Analysis

Regression models will be estimated to achieve the first objective. Equations (1) and (2) will be estimated using the ordinary least square method. Equation (3) to equation (6) are binary logistic regression models, as the dependent variable is binary, i.e., Yes or No.

The equation:

$$Dishonesty_i = \alpha_0 + \beta_1 Environment_i + \beta_2 Social_i + \beta_3 Motivation_i + \beta_4 Culture_i + \beta_5 Treatment_i + \beta_6 Year_i + \beta_7 Male + \beta_8 CGPA_i \varepsilon_i$$

Which:

Dishonesty	:	Similarity Index of the assignment submitted for Business Research (Equation 1, International Business and International Human Resource Management); Cheating (Equation 2); Taking outside help (Equation 3); Electronic cheating (Equation 4); Collusion (Equation 5)
Environment	:	The average score of Academic Environment, which consists of 13 items
Social	:	The average score of Social Factors, which consists of 8 items
Motivation	:	The average score of Student Motivation, which consists of 16 items
Culture	:	The average score of Academic Culture, which consists of 2 items
Treatment	:	Treatment group = 1; control group = 0
Year	:	Academic Year of the student in which academic dishonesty occurs

Male	:	Male = 1; Female = 0
CGPA	:	Current CGPA of the students in which academic dishonesty occurs

To achieve the second objective, two-independent sample t-tests will be performed. The researcher will measure the score differences between the pre-experimental survey and post-experimental survey of the experimental and control group. In this experimental study, the researcher will use t –a test formula to determine whether the mean differences between them were high or not. The researcher followed the following steps:

I. Firstly, the researcher put the scores of the pre-experimental survey and post-experimental survey of both experimental and control groups.

II. Secondly, the researcher calculated the mean from the overall scores of post-experimental surveys of both groups. The researcher will use the following formula to calculate the mean:

$$Me = \frac{\sum x}{n}$$

In this formula,

M represent = mean
$\sum x$ represent = total of the test
N = total of students

III. Thirdly, the researcher calculated the standard deviation with the following formula:

$$S = \sqrt{\frac{\sum(x_1 - \bar{x})^2}{n-1}}$$

In this formula,

S represents = standard deviation

X represents = the mean of the post-experimental survey score

Xi represents = post-experimental survey score

n represent = many days

IV. Fourthly, the researcher used the homogeneity test to know whether the experimental and control groups have the same variants or not using the below formula:

$$F\ hit = \frac{s2\ 1}{s2\ \ 2}$$

In this formula,

$S_1^{2\ \text{represents}}$ = the biggest variance

$S_2^{2\ \text{represents}}$ = the smallest variance

V. Fifthly, the researcher analyzed the data through a t-test to find out whether the difference in the scores between them has a significant or no impact by using the formula below:

$$t = \frac{x}{\sqrt{\overline{s21}}}$$

VI. Then, after calculating all the scores, the researcher will calculate the number of degrees of freedom by adding the individual of each group and then subtracting two. The following formula will be used:

$$df = n1 + n2 - 2$$

In this formula,

df represents = the degree of freedom

N1 represents = the number of subjects in the experimental class

N2 represents = the number of subjects in the control class

Standard of significance = 0.025

VII. After doing those steps, the researcher calculated the result of the research by testing the hypotheses.

VIII. To answer the questions, the researcher counted the percentage of the questionnaire result. The researcher calculated it through the following formula:

$$p = \frac{n}{N} \text{ X } 100\%$$

In this formula,

P represents = percentage

n represent = the number of respondents who choose a certain option

N represents = the number of all respondents

IX. Finally, after the results of the questionnaire are counted, the data compiled with supporting details.

3.10 Ethical Considerations

This research has been conducted as per the guidelines and ethical clearance received from the UTAR SERC (U/SERC/51/2023-See Appendix 3) to proceed with the study using the questionnaire. The researcher considered the issue of potential social desirability bias where participants may respond to social desirability bias, especially in studies on academic dishonesty, often altering responses to align with perceived expectations. These bias impacts self-reported data accuracy, as students might underreport dishonest behaviours. Therefore, researchers mitigate this by ensuring anonymity and using indirect questions, which help to reduce the likelihood of bias and enhance the reliability of findings on sensitive topics like academic integrity.

3.11 Summary of the Chapter

This chapter outlines the research methodology, research design, research physiology, research strategy, research design, data gathering procedures, data processing, and analysis. It is an experimental cause-effect effect relationship study where a deductive research approach has been used.

CHAPTER FOUR RESULTS AND ANALYSIS

4.1 Introduction

The purpose of this chapter is to provide evidence that supports the theoretical hypotheses and research models related to this study. The findings of this study were written in several sections, for example, sections including the demographic profile of the respondents, as well as a descriptive analysis of the independent, moderating, and dependent variables of the participants. The goal is to analyze the averages and standard deviations of the questionnaires, and several preliminary tests conducted to establish the validity and reliability of the model analysis. These tests encompass normality tests, standard method tests, validity tests, and reliability tests. Furthermore, the study evaluated the coefficient of determination, t statistics, significance value, effect size, and the predictive relevance of the endogenous construct.

4.2 Descriptive Analysis

In this study, the researcher presents the findings of the demographic variables using the table. The description, along with the analysis of the visuals, offers a clear understanding of the demographic profile of the respondents based on the data collected for this study.

4.3 Respondents' demographic profile

This study aimed to predict behaviour changes among bachelor students in PHEIs Malaysia's higher education institutions after participating in an academic integrity education program. The literature review presented in

Chapter 2 revealed that violations of academic integrity are subjective, and the reasons for such violations vary from individual to individual. These reasons include the desire for a higher CGPA, parental pressure, societal expectations, and economic and career advancement. Furthermore, these reasons differ based on the students' academic year. For instance, the study found that first-year students are more susceptible to academic integrity violations compared to senior students due to their limited knowledge and awareness of the consequences. Therefore, this study considered three important demographic variables, gender, academic year, and CGPA, in relation to the study academic dishonesty in HEIs.

Demographics

The sample of 255 students shown from January 2023, October 2023 and January 2024 in Table 4.1 includes 37.6% male (96) and 62.4% female (159). In terms of year of study, 0.8% are in their 1st year, 65.1% are in their 2nd year, 29.8% are in their 3rd year, and 4.3% are in their 4th year. Regarding CGPA, 11.0% of students have an excellent CGPA (3.50 - 4.00), 39.2% have a good CGPA (3.00 - 3.49), 37.6% have a satisfactory CGPA (2.50 - 2.99), 10.2% have a pass CGPA (2.00 - 2.49), and 2.0% have a below-average CGPA (0 - 1.99).

Table 4.1 Demographic Analysis (N=255)

Frequency		**N**	**%**
Gender	Male	96	37.6
	Female	159	62.4
Student Academic Year	1st Year	2	.80
	2nd Year	166	65.1
	3rd Year	76	29.8
	4th Year	11	4.3
	Excellent (3.50 - 4.00)	28	11.0

Frequency		N	%
Cumulative Grade Point Average (CGPA)	Good (3.00 - 3.49)	100	39.2
	Satisfactory (2.50 - 2.99)	96	37.6
	Pass (2.00 - 2.49)	26	10.2
	Below Average (0-1.99)	5	2.0

4.4 Statistical Analysis

Construct Validity

Construct validity was evaluated by reviewing correlation values among items, with acceptable values being at least 0.40 (Laher, 2010). Table 2 shows that correlation values exceeded 0.40, confirming strong construct validity. However, some of the variables also did not meet the acceptable value ranges. Additionally, items were compared to the r-table value (See Table 4.2), with those surpassing the r-count considered valid (Priyanto, 2017).

Table 4.2 Validity Test Results

Item X1	Corrected Item_Total Correlation	Item X2	Corrected Item_Total Correlation	Item X3	Corrected Item_Total Correlation	Item X4	Corrected Item_Total Correlation	Item Y	Corrected Item_Total Correlation
X1.1	.683**	X2.1	.882**	X3.1	.882**	X4.1	.360**	Y1.1	.830**
X1.2	.650**	X2.2	.807**	X3.2	.473**	X4.2	.401**	Y1.2	.744**
X1.3	.445**	X2.3	.907**			X4.3	.243**	Y1.3	.795**
X1.4	.499**	X2.4	.899**			X4.4	.349**	Y1.4	.765**
X1.5	.430**	X2.5	.734**			X4.5	.379**	Y1.5	.760**
X1.6	.481**	X2.6	.713**			X4.6	.357**	Y1.6	.739**
X1.7	.484**	X2.7	.686**			X4.7	.280**	Y1.7	.778**
X1.8	.415**	X2.8	.771**			X4.8	.321**	Y1.8	.546**
X1.9	.207**					X4.9	.344**	Y1.9	.396**
X1.10	.312**					X4.10	.296**	Y1.10	.533**
X1.11	.223**					X4.11	.153*	Y1.11	.706**
X1.12	.421**					X4.12	.202**	Y1.12	.798**

X4.13	.143*	Y1.13	.811**
X4.14	.175**	Y1.14	.826**
X4.15	.021	Y1.15	.607**
X4.16	.740	Y1.16	.590**
		Y1.17	.723**

Factor analysis

Factor analysis is a technique that is used to reduce a large number of variables into fewer numbers of factors. This technique extracts the maximum common variance from all variables and puts them into a common score.

Bartlett's test of Sphericity

Bartlett's test (Table 4.3) whether the correlation matrix is an identity matrix (the diagonal value is 1, and the off-diagonal values are 0). This condition just means that the variables are completely independent of each other, and thus the factor is inappropriate. The identity matrix can be ruled out if the *p*-value of the test is less than 0.005.

Table 4.3 KMO and Bartlett's test

KMO and Bartlett's Test		
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.690
Bartlett's Test of Sphericity	Approx. Chi-Square	806.732
	df	21
	Sig.	.000

As we can see from Table 4.3, the data KMO value is .690 which is considered acceptable results as it exceeds 0.05. The Chi-Square (806.721) and significant Bartlett's test ($p < 0.05$) confirm the data's suitability for analysis.

Total variance explained.

In this the percentage of the total variance among the variables that can be explained by a single factor. If the variables are independent of each other,

then the total variance will be equal to the number of variables in the analysis. Eigenvalue is used to decide the number of factors.

Table 4.4 Total Variance Explained

	Initial Eigenvalues			Extraction Sums of Squared Loadings		
Component	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	2.994	42.768	42.768	2.994	42.768	42.768
2	1.447	20.667	63.434	1.447	20.667	63.434
3	1.008	14.403	77.837	1.008	14.403	77.837
4	.673	9.620	87.457			
5	.435	6.209	93.667			
6	.355	5.070	98.737			
7	.088	1.263	100.000			

*Extraction Method: Principal Component Analysis.

Table 4.4 shows that the total variance explained is 77.837 per cent. The first factor accounts for 42.768 per cent of this variance, while the second factor contributes 20.667 per cent, and the third factor accounts for 14.403 per cent.

Reliability Analysis

Reliability is acceptable when Cronbach's Alpha (α) exceeds 0.70 (Hair et al., 2013). The following scales were reliable: environment (α = 0.871), academic culture (α = 0.779), social factors (α = 0.962), student motivation (α = 0.874), academic integrity education (α = 0.868), and academic integrity violations (α = 0.966). See Table 4.5 for details.

Table 4.5 Results of Reliability Statistics

Variables	Cronbach's Alpha	Items	Number of responses
AE	.871	12	255
AC	.779	02	255
SF	.962	08	255
SM	.874	16	255
AIE	.868	15	255
AIVS	.966	17	255

Note: AE=Academic environment; AC=Academic culture; SF=Social Factors; SM=Students motivation; AIE=Academic integrity education; AIVS=Academic integrity violations.

Normality Test

This table 4.6 presents the results of the data normality tests. The Kolmogorov-Smirnov statistic indicates a superior fit to normality, as evidenced by a non-significant *p*-value (> 0.05). Similarly, the Shapiro-Wilk statistic further supports the assumption of normality, with a *p*-value exceeding 0.05.

Table 4.6: Test of data normality

	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
Items	Statistic	df	Sig.	Statistic	df	Sig.
Pre_test	0.071	255	.200	0.980	255	0.118
Post_Test	0.065	255	.200	0.984	255	0.160

a. Lilliefors Significance Correction

The normality of the data was assessed using histograms, as shown in Fig. 2 (a) & (b), which reveal that most of the data follow a bell-shaped curve. Additionally, a probability plot was used to confirm normality, demonstrating

that all data points are close to the probability line. These analyses indicate that the data are normally and appropriately distributed.

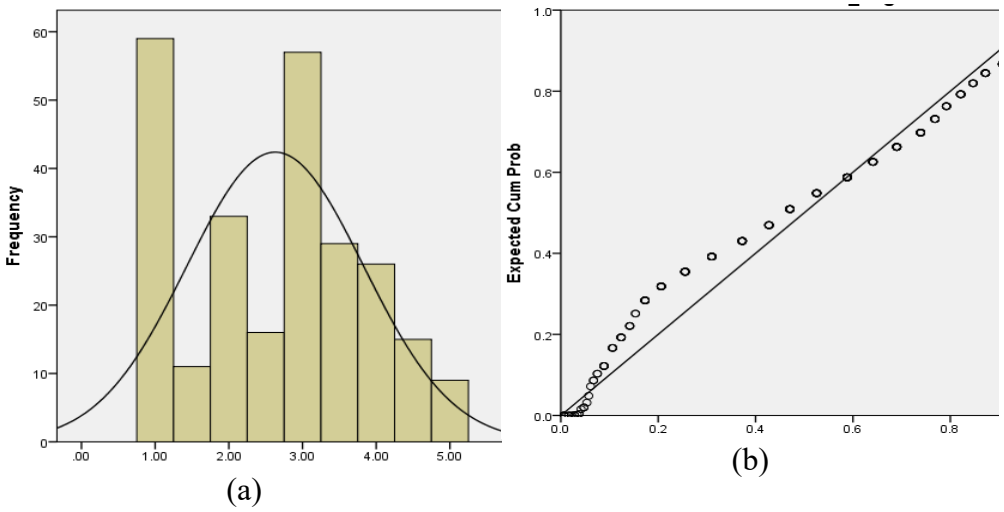

Figure 4.1 Demonstrate the data normality.

Result of Multicollinearity test:

The multicollinearity test assesses whether independent variables in the regression model are linearly related. This study evaluated multicollinearity using the Variance Inflation Factor (VIF). If the VIF value is less than or equal to 10 indicates that there is no severe multicollinearity exist in the model. A VIF exceeding 10 indicates potential multicollinearity issues (Priyanto, 2017). Conversely, a VIF below 10 suggests no multicollinearity concerns. The results are presented in Table 4.7.

Table 4.7: Multicollinearity test results

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	0.348	0.120		2.897	0.004		
	SF_Avg	0.812	0.027	0.888	30.024	0	0.769	1.301
	AC_Avg	0.042	0.021	0.061	2.038	0.043	0.743	1.347
	SM_Avg	0.037	0.042	0.029	0.890	0.374	0.654	1.528
	AE_Avg	-0.072	0.037	-0.060	-1.949	0.052	0.699	1.430

**AIVS average is the dependent variable.

Descriptive statistics for the variables

Academic Environment

Table 4.8 shows that the factor " Faculty (e.g., discussed in class, course syllabus or course outline) " had the highest mean score (3.588) among the rated factors. In contrast, the factor " Have you ever reported another student for cheating?" had the lowest mean score (2.059). The overall mean score for the academic environment for higher education institution students was 3.190, indicating a Slightly High agreement among the study sample.

Table 4.8: Means, SD, and MI for the academic environment are arranged in a descending order

No	Items	M	SD	MI (%)	Level	Rank
5	AE5	3.588	1.019	71.76	Slightly high	1
4	AE4	3.557	1.040	71.14	Slightly high	2
9	AE9	3.475	0.971	69.49	Slightly high	3
7	AE7	3.467	0.991	69.33	Slightly high	4
8	AE8	3.412	0.963	68.24	Slightly high	5
6	AE6	3.392	1.073	67.84	Slightly high	6
11	AE11	3.380	1.157	67.61	Slightly high	7
2	AE2	3.365	1.145	67.29	Slightly high	8
1	AE1	3.129	1.127	62.59	Slightly high	9
3	AE3	2.937	1.134	58.75	Slightly low	10
10	AE10	2.533	1.238	50.67	Slightly low	11

12	AE12	2.059	1.097	41.18	Low	12
Overall		3.190	1.070	63.80	Slightly high	

Social factors

Table 4.9 shows that the statement " I will make an important decision on the answers I receive from my classmates while answering the exam " had the highest average rating, with a mean of 1.79. In contrast, the statement " My classmates think that I should participate in the cheating process at 1.47. Overall, the social factors were assessed with an average rating of 1.60, indicating a low level of agreement among the participants.

Table 4.9: Means, SD, and MI for the social factors are arranged in descending order.

No.	Items	M	SD	MI (%)	Level	Rank
8	SF8	1.79	1.15	35.84	Low	1
7	SF7	1.70	1.08	33.96	Low	2
6	SF6	1.65	1.02	33.10	Very low	3
3	SF3	1.61	1.03	32.24	Very low	4
2	SF2	1.54	0.99	30.82	Very low	5
5	SF5	1.50	0.97	30.04	Very low	6
1	SF1	1.50	0.95	29.96	Very low	7
4	SF4	1.47	0.91	29.41	Very low	8
Overall		1.60	1.01	31.92	Low	

Academic Culture

Table 4.10 shows that the factor that statement number 1, “Do you have to be highly competitive in study to get a certain respect or position in the society? " recorded the highest mean (2.65) among the rated factors. In contrast, statement no. 2, " Does pressure from parents for getting high marks lead

students to cheat in the university? " had the lowest mean (2.61). The overall academic culture was rated with a mean of 2.63, reflecting a Slightly Low level of agreement among the study sample.

Table 4.10: Means, SD, and MI for the Academic Culture are arranged in a descending order

No	Items	M	SD	MI (%)	Level	Rank
1	AC1	2.65	1.30	53.00	Slightly low	1
2	AC2	2.61	1.35	52.20	Slightly low	2
Overall		2.63	1.33	52.60	Slightly low	

Table 4.11 shows that factor 9,' The purpose of the study is to learn something new,' had the highest mean score (3.87) among the factors rated by the study sample. In contrast, statement 16, “Main reasons for cheating-what is the main reason for cheating among students?' recorded the lowest mean (1.98). Overall, the mean rating for students' motivation related to academic integrity violations in higher education was 3.17, reflecting a Slightly High agreement within the study sample.

Table 4.11 Means, SD, and MI for the student motivation are arranged in a descending order

No	Items	M	SD	MI (%)	Level	Rank
9	SM9	3.87	1.07	77.42	High	1
5	SM5	3.79	1.04	75.76	High	2
10	SM10	3.68	1.05	73.56	Slightly high	3
2	SM2	3.67	1.06	73.34	Slightly high	4
7	SM7	3.62	1.03	72.48	Slightly high	5
3	SM3	3.53	1.04	70.66	Slightly high	6
6	SM6	3.44	1.16	68.78	Slightly high	7

8	SM8	3.11	1.01	62.12	Slightly high	8
11	SM11	3.06	1.24	61.26	Slightly high	9
12	SM12	2.98	1.08	59.68	Slightly low	10
4	SM4	2.90	1.10	57.96	Slightly low	11
13	SM13	2.85	1.09	56.94	Slightly low	12
1	SM1	2.79	1.19	55.76	Slightly low	13
15	SM15	2.79	1.06	55.76	Slightly low	14
14	SM14	2.71	1.10	54.28	Slightly low	15
16	SM16	1.98	0.78	39.60	Low	16
Overall		3.17	1.07	63.40	Slightly high	

Academic integrity education

Table 4.12 shows that factor 14, " There should be a reduction in the price of the textbook. " Recorded the highest mean (3.88) among the factors rated by the study sample. In contrast, statement 5, " Submitting another person's assignment as my own does not mean that I infringed on copyright. " Had the lowest mean (2.11). Overall, the academic integrity of online students was rated at a mean of 3.15, indicating a Slightly High agreement among the participants.

Table 4.12: Means, SDs, and MIs for academic integrity education are listed in descending order

No	Items	M	SD	MI (%)	Level	Rank
14	AIE14	3.88	1.00	77.50	High	1
12	AIE12	3.82	0.98	76.48	High	2
9	AIE9	3.66	1.01	73.18	Slightly high	3
6	AIE6	3.50	1.15	70.04	Slightly high	4
7	AIE7	3.46	1.06	69.26	Slightly high	5
15	AIE15	3.38	1.06	67.60	Slightly high	6
11	AIE11	3.30	1.03	66.04	Slightly high	7
8	AIE8	3.28	1.02	65.50	Slightly high	8
13	AIE13	3.26	1.15	65.10	Slightly high	9
10	AIE10	3.13	1.03	62.50	Slightly high	10
1	AIE1	2.97	1.17	59.38	Slightly low	11
4	AIE4	2.70	1.07	54.04	Slightly low	12

3	AIE3	2.48	1.07	49.56	Slightly low	13
2	AIE2	2.34	1.06	46.82	Low	14
5	AIE5	2.11	1.10	42.28	Low	15
Overall		3.15	1.06	63.00	Slightly high	

Academic integrity violations

Table 4.13 shows that factor 10, " I have received help from my classmates to prepare the assignment, " had the highest mean score (2.32) among the rated factors. In contrast, statement 13, " I have paid money to others to write my assignment," had the lowest mean score (1.412). The overall mean score for the academic integrity violations among students was 1.65, reflecting a very low agreement among the study sample.

Table 4.13 Means, SD, and MI for the academic integrity violations are arranged in a descending order

No	Items	M	SD	MI (%)	Level	Rank
10	AIVS10	2.329	1.3433	46.59	Low	1
11	AIVS11	1.957	1.1128	39.14	Low	2
17	AIVS17	1.871	1.1784	37.41	Low	3
16	AIVS16	1.855	1.1147	37.10	Low	4
12	AIVS12	1.667	.9855	33.33	Low	5
7	AIVS7	1.627	1.0187	32.55	Very low	6
9	AIVS9	1.616	1.0201	32.31	Very low	7
3	AIVS3	1.576	1.0315	31.53	Very low	8
6	AIVS6	1.561	.9977	31.22	Very low	9
5	AIVS5	1.537	.9378	30.75	Very low	10
4	AIVS4	1.537	.9869	30.75	Very low	11
2	AIVS2	1.529	.9832	30.59	Very low	12
8	AIVS8	1.506	.9044	30.12	Very low	13
1	AIVS1	1.482	.8777	29.65	Very low	14
15	AIVS15	1.467	.9910	29.33	Very low	15
14	AIVS14	1.439	.9067	28.78	Very low	16
13	AIVS13	1.412	.8957	28.24	Very low	17
Overall		1.65	1.02	33.00	Very low	

Reporting Pearson Correlation

A Pearson product correlation coefficient was computed to determine the relationship between academic environment and academic integrity violations, between social factors and academic integrity violations, between academic culture and academic integrity violations, and between student motivation and academic integrity violations. See table 4.14

Table 4.14: Correlation Analysis

	AIVs	AE	SF	AC	SM
AIVs	1				
AE	.175**	1			
SF	.909**	.236**	1		
AC	.463**	.182**	.454**	1	
SM	.242**	.537**	.254**	.331**	1

****. Correlation is significant at the 0.01 level (1-tailed).**

Pearson correlations were analyzed between the academic environment, social factors, academic culture, student motivation, and academic integrity violations:

Academic Environment: A weak but statistically significant correlation ($r = 0.282$, $p < 0.01$) supports Hypothesis 1, suggesting that improvements in the academic environment may reduce integrity violations.

Social Factors: A very strong, statistically significant correlation ($r = 0.909$, $p < 0.01$) supports Hypothesis 2, indicating that addressing social factors can significantly reduce integrity violations.

Academic Culture: A moderate, statistically significant correlation ($r = 0.463$, $p < 0.01$) supports Hypothesis 3, implying that fostering a stronger academic culture may reduce violations.

Student Motivation: A moderate, statistically significant correlation ($r = 0.242$, $p < 0.01$) supports Hypothesis 4, indicating that increased student motivation can help mitigate integrity violations. See Table 4.15

Findings from the Multiple Regression Analysis

Table 4.15: Model Summary

Model	R	R Square	Adjusted R Square	Std. The error of the estimate
1	0.912[a]	0.832	0.829	.3410

The value of R = 0.912 in Table 4.15 signifies a strong correlation between the variables of the academic environment, social factors, academic culture, and student motivation with academic integrity violations. This observation can be attributed to the value's proximity to 1. Furthermore, R is adjusted for the squared value of 0.823, which indicates that academic environment, social factors, academic culture, and student motivation collectively contribute to 83.2 percent of academic integrity violations. It is important to note that the remaining percentage is influenced by other variables not accounted for in this particular model. See Table 4.16

Table 4.16 ANOVA[a]

	Model	Sum of Squares	df	Mean Square	F	Sig.
1	Regression	143.808	4	35.952	309.181	0.000[b]
	Residual	29.070	250	o.116		
	Total	172.878	254			

a. Dependent Variable: AIVs
b. Predictors: (Constant), SM, SF, AC, AE

Table 4.17 shows that the ANOVA p-value is 0.000, which is less than 0.05. This indicates a significant relationship between the independent variables—academic environment, social factors, academic culture, and student motivation—and the dependent variable, academic integrity violations.

Table 4.17: Coefficients

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	0.348	0.12		2.897	0.004
AE	-0.072	0.037	-0.060	-1.949	0.052
SF	0.812	0.027	0.888	30.024	0.000
AC	0.042	0.021	0.061	2.038	0.043
SM	0.037	0.042	0.029	0.890	0.374

Dependent Variable: AIVS

Table 4.17 presents the study's coefficient results. The beta value for Academic Environment (AE) is -0.060, indicating that a one-unit increase in AE leads to a 0.060 unit decrease in Academic Integrity Violations (AIVS), demonstrating an inverse relationship. For Social Factors (SF), the beta value is 0.888, showing that a one-unit increase in SF leads to a 0.888 unit increase in AIVS, reflecting a direct relationship. Academic Culture (AC) has a beta value of 0.061, indicating a direct relationship, where a one-unit increase in AC results in a 0.061 unit increase in AIVS. Student Motivation (SM) has a beta value of 0.029, also indicating a direct relationship, with a one-unit increase in SM leading to a 0.029 unit increase in AIVS.

The study examined the moderating effect of Academic Integrity Education (AIE) on the relationships between Academic environment (AE), Social factors (SF), Academic culture (AC), Social Motivation (SM), and the

Academic Integrity Violation Scale (AIVS). Without the moderating effect, 83.2% of the variance in AIVS was explained (R^2 = 0.832). Including the interaction term slightly increased the explained variance to 83.6% (R^2 = 0.836). AE's interaction had a negative but non-significant effect, leading to the rejection of Hypothesis 5(a), while SF, AC, and SM's interactions had positive or negative non-significant effects, supporting Hypotheses 5(b), 5(c), and 5(d), respectively. Overall, the moderating effects of AIE were minimal and not statistically significant. In summary, AE interaction strengthens the negative relationship, SF interaction reinforces the positive relationship, AC interaction weakens the positive relationship, and SM interaction slightly strengthens the positive relationship. See Table 4.18.

Table 4.18: Moderation Analysis

Relationship	Beta	SE	T value	P-value
(AE)	-0.074	0.041	-1.784	0.076
(SF)	0.102	0.056	1.817	0.071
(AC)	-0.003	0.037	-0.087	0.931
(SM)	0.019	0.050	0.381	0.703

Note: SE: Standard Error, ****p<.000

Results from Experimental Analysis [quiz test]

Table 4.19: Mean score of quiz test for the control and experimental groups

Assessment	Group	*N*	Mean	Std. Deviation
Quiz Test Score	Experimental	130	8.11	2.25
	Control	125	5.77	2.07

Table 4.19 shows the mean quiz test scores for the control and experimental groups, highlighting that the experimental group (N = 130) achieved a higher average score of 8.11 with a standard deviation of 2.25, while the control group (N = 125) had a lower average score of 5.77 with a standard

deviation of 2.07. This indicates that the experimental group performed better on the quiz test, suggesting that the intervention applied to this group was effective in improving their quiz test performance compared to the control group. The relatively similar standard deviations suggest that the variability in scores within each group is comparable, reinforcing that the observed difference in mean scores is likely due to the intervention.

Moreover, a t-test for independent samples was conducted since there is one dependent, continuous score (i.e., the Kember score) and one independent, categorical variable with two levels (i.e., the control group and the experimental group). The results of this test did not show a statistically significant difference between the control and 67 experimental groups relative to the Kember summary scores t (215) = 0.50, p = 0.960. Therefore, the null hypothesis could not be rejected, and the modified business ethics curriculum (consisting of the addition of Keller's transformational learning strategies) cannot be said to have impacted the occurrence of transformational learning among students as measured by the Kember survey. The results of the t-test are detailed in Table 4.20 below.

Table 4.20 Differences in Kember Summary Scores Between the Control and Experimental Groups

Group	*N*	Mean	Std. Deviation	*t*	df
Experimental	130	8.11	2.25	8.70	253
Control	125	5.77	2.07		

Since the p-value corresponding to a t-value of 8.70 is very small (typically $p<0.0001$), this indicates extremely strong evidence against the null hypothesis. In practical terms, this means that the chance of observing such a large difference in means between the experimental and control groups if there were actually no differences (null hypothesis true) is less than 0.01%. Therefore, the significance level α\alphaα would be far below 0.05.

To be more precise, the exact significance level α\alphaα isn't directly listed in your table, but it's inferred from the context and conventionally assumed to be 0.05 unless stated otherwise in the study methodology or results. This means that with a p-value much smaller than 0.05, we reject the null hypothesis and conclude that the intervention likely had a significant effect on increasing quiz test scores in the experimental group compared to the control group.

The second assumption to be checked pertained to the homogeneity of regression. The value of the significance of "tests of between-subjects effects" for student type * pretest results was found to be 0.253, a non-significant value. Therefore, the second assumption was also satisfied. The results of this test did not show a statistically significant difference between the adjusted post-experimental survey scores of the control and experimental groups, $F(1,171) = 0.012$, $p = 0.911$. Therefore, the null hypothesis could not be rejected, and the modified business ethics curriculum (consisting of the addition of Keller's transformational learning strategies) cannot be said to have impacted the cognitive moral development of students as measured by the DIT2 survey. The results of the ANCOVA are detailed in Table 4.21 below.

Table 4.21 Differences in Adjusted Post-experimental survey Scores Between Control and Experimental Groups

Group	*N*	Pre-test	Post-test	Adjusted	F-value	df	Sig.
Experimental	130	2.558	2.745	2.81			
Control	125	2.628	2.960	2.88	14.08	1.000	.000

Null Hypothesis (H_0): There is no difference in quiz test scores between the experimental and control groups. Alternative Hypothesis (H_1): There is a difference in quiz test scores between the experimental and control groups. Therefore, the alternative hypothesis is accepted.

4.5 Summary of the Chapter

This chapter summarizes the findings from the descriptive statistics, pre-intervention analysis, post-intervention analysis, quiz test results, and hypothesis testing. Additionally, it highlights the key findings in relation to the study objectives and presents them in this section of the thesis.

CHAPTER FIVE DISCUSSION AND CONCLUSION

5.1 Introduction

This chapter shows the findings and discussion of the study to draw a logical conclusion. From the literature it is evident that academic integrity is essential for fostering quality education in higher institutions, requiring a commitment to honesty and ethical behaviour from both students and academic staff. However, breaches, ranging from unintentional plagiarism to deliberate cheating, continue to present challenges. These issues are often exacerbated by varying cultural interpretations and unclear definitions of academic standards, leading to misunderstandings and unethical behaviour. This research contributes to the ongoing discussion of using academic integrity tutorials to enhance students' adherence to ethical standards. By assessing the impact of such tutorials, the study seeks to offer practical strategies that educators can integrate into their teaching methods. The findings are expected to inform curriculum developers and policymakers, supporting the creation of comprehensive academic integrity programs in higher education.

5.2 Summary of Hypotheses Testing

Academic Environment: A weak but "statistically significant correlation" ($r = 0.282$, $p < 0.01$) supports Hypothesis 1, suggesting that improvements in the academic environment may reduce integrity violations.

Social Factors: A very strong, "statistically significant correlation" ($r = 0.909$, $p < 0.01$) supports Hypothesis 2, indicating that addressing social factors can significantly reduce integrity violations.

Academic Culture: A moderate, “statistically significant correlation” ($r = 0.463$, $p < 0.01$) supports Hypothesis 3, implying that fostering a stronger academic culture may reduce violations.

Student Motivation: A moderate, “statistically significant correlation” ($r = 0.242$, $p < 0.01$) supports Hypothesis 4, indicating that increased student motivation can help mitigate integrity violations.

Moderating effect

The study examined the moderating effect of Academic Integrity Education (AIE) on the relationships between Academic environment (AE), Social factors (SF), Academic culture (AC), Social Motivation (SM), and the Academic Integrity Violation Scale (AIVS).

Without the moderating effect, 83.2% of the variance in AIVS was explained ($R^2 = 0.832$). Including the interaction term slightly increased the explained variance to 83.6% ($R^2 = 0.836$). AE's interaction had a negative but non-significant effect, leading to the rejection of Hypothesis 5(a), while SF, AC, and SM's interactions had positive or negative non-significant effects, supporting Hypotheses 5(b), 5(c), and 5(d), respectively. Overall, the moderating effects of AIE were minimal and not statistically significant. In summary, AE interaction strengthens the negative relationship, SF interaction reinforces the positive relationship, AC interaction weakens the positive relationship, and SM interaction slightly strengthens the positive relationship.

Effect of experimental intervention

In the case of experimental intervention, the result shows that academic integrity education positively affects the performance of the participants.

Therefore, the alternative hypothesis is accepted. Alternative Hypothesis (H_1): There is a difference in quiz test scores between the experimental and control groups.

5.3 Discussion of the findings

The study offers valuable insights into factors influencing academic integrity violations in higher education and suggests areas for targeted interventions. While perceptions of the academic environment were moderately positive, they had a weak correlation to integrity violations ($r = 0.282$, $p < 0.01$) and a negative regression coefficient (-0.060), supporting previous research that links supportive academic settings to reduced misconduct (Ehrich et al., 2016). However, the strong correlation between social factors and violations ($r = 0.909$, $p < 0.01$) highlights the significant role of peer influence, reinforcing the idea that social norms heavily shape student behaviour (McCabe & Treviño, 1997). This suggests that efforts to reshape these norms could greatly reduce violations. The moderate correlation with academic culture ($r = 0.463$, $p < 0.01$) and its slightly positive regression coefficient (0.061) indicate that while a strong academic culture promotes integrity, it may not completely prevent misconduct, reflecting the complexity of its influence (Jurdi et al., 2012). Student motivation had minimal impact on violations, with only a modest correlation ($r = 0.242$, $p < 0.01$) and a small beta value (0.029), consistent with research suggesting motivation is often secondary to environmental and social influences (Rettinger & Kramer, 2009).

Moderation analysis showed that academic integrity education increased the explained variance in violations ($R^2 = 0.836$), but its moderating effects were statistically insignificant across all factors. For instance, while the academic

environment's influence on violations was negative, it wasn't significant (β = -0.074, p = 0.076), suggesting that while education improves awareness of integrity, it has a limited impact on the relationship between environment and violations. Similarly, social factors had a positive but non-significant moderating effect (β = 0.102, p = 0.071), showing peer influence remains strong despite educational efforts. Non-significant results for academic culture (β = -0.003, p = 0.931) and student motivation (β = 0.019, p = 0.703) further suggest that education alone may not change these dynamics, in line with previous findings. This calls for a multifaceted approach combining educational, environmental, and social strategies to effectively reduce violations.

The study in question aimed to assess the impact of an experimental intervention on participants' quiz test scores. The results indicate that the experimental group, who were exposed to the intervention, achieved a significantly higher mean score of 8.11 on the quiz test, with a standard deviation of 2.25, compared to the control group, whose mean score was 5.77 with a standard deviation of 2.07 (Chukwuedo et al., 2021).

The observed difference in performance between the two groups suggests that the experimental intervention was effective in improving the academic achievement of the participants. One possible explanation for this finding is that the intervention was designed to enhance the participants' self-direction in learning, which has been shown to promote academic well-being and engagement (Chukwuedo et al., 2021). In the context of educational intervention, the findings are consistent with the results reported in the literature, which indicate that educational interventions that incorporate

interactive and engaging elements can lead to improved learning outcomes (McCabeet al., 2012).

The use of formative quizzes and gamified e-quiz applications, as discussed in another study, may have also played a role in enhancing the participants' engagement and learning performance (Zainuddin et al., 2020). The alternative hypothesis states that there is a significant difference in the mean quiz test scores between the experimental and control groups. In the context of an experimental study where a quiz is conducted to assess the effectiveness of an intervention, and the results show that the experimental group performs better than the control group.

To address academic integrity violations, several studies have examined the underlying institutional and social factors that contribute to such misconduct. Habiburrahim et al. (2021) pointed out that high teacher expectations, stringent assignment deadlines, and poor teacher-student relationships are institutional causes of academic misconduct. Anohina-Naumeca et al. (2020) supported these findings by identifying students' lack of awareness of university policies and the absence of systematic approaches to promoting academic integrity as key reasons for violations. Additionally, the absence of clear institutional policies and consistent efforts to educate students about the consequences of academic misconduct significantly contributes to integrity breaches (Kassim et al., 2015).

Social factors, particularly social norms and trust, influence violations of academic integrity. Social norms, representing accepted beliefs, attitudes, and behaviours within specific groups or cultures, affect behaviours across various contexts such as education, family, peers, societal expectations, finances, and

social skills. Cuadrado et al. (2019) illustrated that students from diverse social, economic, and educational backgrounds exhibit different behaviours related to academic integrity owing to these social influences. In higher education settings, the lack of explicit institutional guidelines and policies on academic integrity is a significant social factor contributing to violations.

Moreover, academic culture, which is influenced by parental pressure for academic success, can lead students to compromise their integrity to meet the high standards set by their parents. Combined with unrealistic expectations and challenging tasks, this pressure can drive students towards dishonest behaviour, even if they are unaware of their true capabilities. Institutional pressures, such as teachers setting high performance expectations, can also incentivise cheating, as students fear that they will not achieve respectable grades otherwise, contributing to a culture of misconduct over time.

Previously uncommon academic integrity breaches have become more prevalent due to the expansion of digital resources. With widespread internet access and advanced technologies such as AI, students now have easy access to abundant information, leading to behaviours such as copying from the internet and utilising essay mills for assignments, which pose challenges for higher education institutions (Medway et al., 2018). Students must also understand intellectual property and its fair use. Leveraging technology and AI is critical for fostering ethical learning environments. To address these challenges, the strategies proposed by researchers focus on three key areas: pedagogical methods, academic policy enhancement, and technological progress. Implementing an ethics program for students is a proactive step towards promoting academic integrity and preventing misconduct.

5.3.1 Introducing an ethical program for students

Higher education institutions aim to equip students with not only technical skills, but also moral principles that are essential for academic integrity (Cuadrado et al., 2019). Research suggests that imposing punishment alone is ineffective in reducing academic violations. Therefore, institutions must introduce academic integrity tutorials to emphasise ethical values. These courses should cover topics such as academic integrity, institutional codes, the consequences of violations, and moral norms in academia (Anohina-Naumeca et al., 2020). Making academic integrity courses mandatory for new students can foster greater awareness and intolerance towards violations. Studies have shown that comprehensive programs can significantly reduce plagiarism rates (Vaccino-Salvadore & Hull-Buck, 2021).

Universities should adopt institutional strategies, including workshops and awareness events for staff and students (Ison & Szathmary, 2016). Increasing academic integrity lectures within study programs ensures a thorough understanding of university regulations (Valizadeh, 2022). Teachers should employ diverse assessments and proctored examinations to deter violations (Davies & Al Sharefeen, 2022). This holistic approach supports ethical development and reduces academic misconduct effectively.

5.3.2 Development of an academic honour code and policy

The academic honour code serves as a vital framework for universities, guiding their responses to breaches of academic integrity. Institutions must regularly revise their policies to manage such incidents effectively. Students often commit plagiarism because of an insufficient awareness of its

consequences (Akbar & Picard, 2019). Educating students on academic conduct and updating the honour code accordingly is crucial. Regular communication and enforcement are key to fostering a culture of integrity among students (Merkel, 2022). To bolster comprehension and adherence to the honour code, universities should offer training, expand lectures on integrity, and provide counselling through academic advisors (Shala et al., 2018).

5.3.3 Development of an anti-plagiarism software and technology

Technological advancements have led to growth in undetected academic dishonesty among students. Higher education institutions must invest in technology to safeguard online assessment systems. This includes implementing digital proctoring systems to monitor and record students' actions during exams (Valizadeh, 2022). Despite its potential misuse for academic dishonesty such as plagiarism, AI software has driven the advancement of more robust plagiarism detection tools. Students exploit AI to stealthily complete assignments and may engage third parties in producing reports, making originality verification challenging for educators. Requiring submissions through plagiarism checkers can mitigate this issue. Prominent tools, such as Turnitin, Authenticate, and Plagiarism Checker, aid this effort. Institutions must prioritise investing in such tools to effectively identify instances of academic dishonesty (Waigand, 2019; Khan et al., 2021). Assessments should reflect individual student efforts and discourage dependency on ghostwriters (Nushi et al., 2017). Such strategies foster academic integrity and reduce plagiarism.

5.3.4 Academic honour Code

The academic honour code is a vital policy document to address issues related to Cheating and plagiarism within higher education institutions. In a study conducted by Zeb et al., (2024), the advancements in technology, coupled with the accessibility of artificial intelligence tools, have given rise to more and more advanced issues related to Cheating and plagiarism within these institutions (Farahian et al., 2020). Regrettably, the existing policies currently in place are inadequate in effectively addressing the challenges posed by AI and technology. Consequently, higher education institutions must overhaul their honour codes following local regulations to ensure that they are well-equipped to effectively detect and combat instances of AI-based Cheating and plagiarism (DeZoort, 2023). By doing so, higher education institutions may be able to identify and take appropriate actions against students who repeatedly violate the policy, thereby implementing remedial measures and disciplinary actions as necessary.

5.3.5 Developing students' skills and awareness

Students engage in academic dishonesty within HEIs due to a lack of knowledge and awareness regarding the potential consequences of their academic and professional pursuits. To address this issue, Zhang et al., (2023) propose that higher education institutions should organize tutorials that cover essential aspects of plagiarism, including citation, referencing, and common errors. Moreover, Zeb et al. (2024) suggest that regular training sessions should be conducted for both students and teachers to familiarize them with the repercussions of Cheating and plagiarism, as well as to assist them in developing the necessary skills to address these concerns. By implementing these programs,

students' comprehension of Cheating and plagiarism can be significantly enhanced.

5.3.6 Creating anti-plagiarism software

Artificial intelligence has made it possible for students to check grammar, detect plagiarism, translate languages, and create easy outlines (Malik et al., 2023). However, students often misuse this tool by simply copying and pasting, which negatively impacts their creativity, critical thinking, and ethical writing skills. Additionally, technological advancements have led to unauthorised collaboration among students, as well as the purchase of assignments and written reports from ghostwriters, actions that higher education institutions often fail to identify and address (Rundle et al., 2023). Therefore, HEIs are required to launch anti-plagiarism tools to detect students plagiarism and implement alternative teaching and evaluation methods to tackle this problem.

Educational institutions use plagiarism detection software like Turnitin to prevent cheating by analyzing students' work for signs of academic dishonesty. Additionally, institutions often have student whistleblower policies to promote integrity, encouraging reporting of cheating. This proactive approach reduces academic misconduct (DeZoort, 2023). Moreover, institutions offer counseling and advisory services to clarify ethical boundaries in academic work. Through policy enhancements, awareness campaigns, technical tools, and supportive guidance, academic integrity can be upheld. Mutalip et al. (2024) suggest designing and evaluating diverse exam questions and implementing continuous assessment to combat technology-related cheating and plagiarism.

5.3.7 Introducing academic integrity tutorials

Introducing academic integrity education in higher education institutions plays a crucial moderating role in reducing academic dishonesty. This initiative is essential to enhance an ideal environment of academic honesty, accountability, and ethical behaviour among learners, thereby maintaining the credibility and value of academic qualifications. Academic dishonesty, which includes practices such as plagiarism, cheating on exams, and falsifying research data, undermines the educational process and devalues the achievements of those who adhere to ethical standards. By embedding academic integrity education into the fabric of higher education, institutions can significantly mitigate these issues and promote a more honest and effective learning environment.

Academic integrity education begins with raising awareness about what constitutes dishonest behaviour, and the severe consequences associated with it. Many students engage in unethical practices due to a lack of understanding of academic integrity principles or the repercussions of their actions. Comprehensive education programs can clarify these boundaries, making students aware of the institution's policies on academic dishonesty and the long-term damage it can cause to their academic and professional careers. This awareness is the first step in creating an environment where integrity is valued and upheld.

In addition to raising awareness, academic integrity education plays a pivotal role in developing ethical decision-making skills. Students often face various pressures, including high academic expectations, competition, and personal challenges, which can tempt them to engage in dishonest behaviour.

Educating students on the importance of integrity helps them understand the value of ethical behaviour and equips them with the tools to make the right choices, even in difficult situations. When students comprehend the intrinsic benefits of honesty, such as personal satisfaction, trustworthiness, and the respect of peers and faculty, they are more likely to act ethically.

Moreover, academic integrity education provides students with practical skills that reduce the likelihood of dishonest behaviour. For instance, workshops on time management, effective study techniques, and proper research methods can help students manage their workload better and approach their assignments with confidence. Often, academic dishonesty is a result of poor planning or a lack of necessary skills to complete tasks independently. By addressing these root causes, integrity education empowers students to achieve their academic goals through legitimate means.

Creating a supportive environment is another critical aspect of academic integrity education. Institutions that prioritise integrity foster a community where students feel comfortable seeking help when needed. This support can come from various sources, including peer mentoring programs, where senior students guide juniors on maintaining ethical standards and managing academic pressures. Faculty involvement is also crucial; professors can model ethical behaviour, integrate discussions on integrity into their curriculum, and provide guidance on navigating academic challenges honestly. When students see that their institution and its members are committed to upholding integrity, they are more likely to follow suit.

Technology also plays a significant role in promoting academic integrity. Higher education institutions can leverage learning management

systems to disseminate information on integrity, conduct online workshops, and monitor student participation in integrity programs. AI-driven tools can help detect and prevent dishonest practices, such as plagiarism, by analyzing student submissions for originality. These technological solutions can act as both deterrents and educational tools, teaching students about the importance of producing original work.

The implementation of academic integrity education should be comprehensive and continuous. Integrating integrity training into orientation programs for new students sets a clear expectation from the beginning of their academic journey. Regular workshops and seminars can reinforce these principles throughout their studies, covering various aspects of academic integrity and providing practical guidance. Online modules offer flexible learning opportunities, allowing students to engage with the material at their own pace and revisit it as needed. Personalised counseling services can address individual needs, offering support for students struggling with academic pressures or ethical dilemmas.

Continuous evaluation and feedback are essential to ensure the effectiveness of academic integrity programs. Institutions should regularly assess their programs through surveys, feedback forms, and focus groups, using this input to make necessary adjustments and improvements. This iterative process ensures that the programs remain relevant and responsive to the evolving challenges faced by students and faculty.

In conclusion, academic integrity education serves as a critical moderating force in reducing academic dishonesty in higher education. By raising awareness, promoting ethical decision-making, equipping students with

practical skills, and creating a supportive environment, institutions can foster a culture of honesty and responsibility. The integration of technology and continuous evaluation further enhance these efforts, ensuring that academic integrity remains a cornerstone of the educational experience. Through these comprehensive measures, higher education institutions can uphold the value of academic qualifications and prepare students to become ethical and responsible professionals in their future careers.

5.4 The Study's Implications

In the current context of higher education institutions in Malaysia, it is essential to conduct further studies to identify the variables responsible for academic integrity violations and to understand the moderating effect of academic integrity education in curbing dishonest behaviour. This study conducted a comprehensive analysis of the results. The findings offer several valuable implications, which will be explored in the following section. This discussion will delve into the theoretical and practical significance of the study, along with other critical insights derived from the research.

5.4.1 Broader Societal Implications

The broader societal implications of academic integrity violations are profound and affect students' personal, professional, and societal growth. The dishonest acquisition of educational credentials can result in job inefficiency or even unemployment (Kassim et al., 2015). Research indicates that individuals who engage in academic dishonesty are more prone to unethical behaviour in professional settings, contributing to corporate corruption and unethical practices (Anohina-Naumeca et al., 2020).

Academic integrity violations pose significant challenges by setting negative examples for educators, students, and researchers, potentially fostering similar misconduct within their fields and undermining the credibility of academic degrees (Cuadrado et al., 2019). To address these concerns and safeguard stakeholder interests, it is vital to prioritise the identification and prevention of such violations.

Higher education institutions must regularly evaluate and update their academic integrity policies to ensure that students are well informed (Verhoef et al., 2022). Additionally, institutions should provide integrity tutorials, training sessions, and workshops to enhance learners' knowledge of academic writing and the consequences of its breaches (Srirejeki et al., 2022). Implementing anti-plagiarism software and fostering an ethical educational environment that values fairness in assessing students' work are crucial institutional measures (Beketov & Lebedeva, 2022).

5.4.2 Theoretical Implications

This study enhances the theoretical understanding of academic integrity in higher education by integrating Social Learning Theory, Rational Choice Theory, and Self-determination theory. It examines how students navigate academic integrity within a PHEI in Malaysia. Theory such as SLT illustrates that students model the behaviours of their peers and educators, which can either reinforce ethical behaviour or perpetuate academic misconduct. Through the lens of Rational Choice Theory, the research reveals the cost-benefit analyses that students conduct when making decisions about integrity, highlighting how perceived risks and rewards influence their choices. Additionally, Self-determination theory provides a framework for exploring students' internal

growth and moral self-concept, emphasising the importance of personal development in promoting ethical decision-making. Together, these theoretical perspectives offer a multidimensional view of the factors shaping academic integrity. This comprehensive understanding facilitates the development of targeted interventions that address both individual motivations and institutional influences.

5.4.3 Practical implications

The finding revealed that academic dishonesty such as plagiarism and cheating are the most common type of academic issues in universities globally, worsened by AI and technology. This study helps institutions enhance ethics and establish measures to detect and prevent misuse of AI and technology. It also aids in improving anti-plagiarism software and updating honour codes to comply with laws. Furthermore, it raises student awareness and proficiency in ethical practices. The study supports policymakers in creating national integrity and AI policies to address academic misconduct.

5.4.4 Implications for Authorities or Decision-makers

The significant implications of this study for policy and strategy planning within the higher education sector are outlined below. It is essential to reassess the current policies regulated by the Ministry of Higher Education (MOHE) and the Malaysian Qualifications Agency (MQA) concerning academic staff and HEIs in light of the issues stemming from violations of academic integrity. The rapid advancement of AI technologies necessitates a robust framework to ensure their responsible and ethical use within higher education institutions. The government should take a proactive role in

formulating a comprehensive AI policy aimed at preserving academic integrity across universities and colleges. This policy should be built on fundamental principles of transparency, fairness, accountability, and privacy, ensuring that all AI applications in educational settings are aligned with these core values.

Firstly, the policy must address the ethical use of AI to prevent academic dishonesty. This includes the use of AI in detecting plagiarism, cheating, and other forms of misconduct. Clear guidelines should be established to define what constitutes the misuse of AI in academic work. For instance, students should be prohibited from using AI to generate assignments or exam answers, while faculty should avoid relying on AI tools that could inadvertently encourage unfair advantages or biases. Instead, AI should be leveraged to support learning and research in ways that enhance, rather than undermine, academic integrity.

Transparency is another critical element of the policy. All stakeholders, including students, faculty, and staff, should be fully informed about the AI tools being used, their purposes, and the data they collect. This can be achieved through comprehensive disclosures and consent processes. By ensuring that everyone is aware of how AI systems operate and the implications of their use, the institution can foster a culture of trust and openness. Transparency also involves making AI systems' algorithms and decision-making processes accessible for scrutiny, thus preventing any hidden biases or errors from going unchecked.

Fairness must be a cornerstone of the AI policy. AI systems should be designed and implemented to avoid discrimination and bias. This requires rigorous testing and validation processes to ensure that AI tools treat all users

equally, regardless of their background or circumstances. The policy should mandate the inclusion of diverse datasets in the development phase and continuous monitoring to detect and rectify any biases that may emerge. Furthermore, institutions should encourage the involvement of a diverse group of stakeholders in the development and oversight of AI systems to ensure that multiple perspectives are considered.

Implementation and monitoring are essential to the policy's success. The government should require institutions to provide regular training for faculty and students on the ethical use of AI, ensuring that they are well-versed in the guidelines and best practices. This training should cover a range of topics, including recognising and avoiding biases, understanding the limitations of AI, and fostering a critical approach to AI-generated content. To enforce compliance, a dedicated monitoring body should be established within each institution to oversee the use of AI, investigate any reports of misuse, and take appropriate disciplinary actions. This body should also be responsible for conducting periodic audits and assessments to ensure ongoing adherence to the policy.

Enforcement mechanisms must be clearly defined within the policy. Institutions should have a structured approach to handling violations, with clear consequences for breaches. This could range from academic penalties, such as failing grades or suspension, to legal actions in cases of severe misconduct. A confidential reporting system should be in place to allow students and staff to report any suspected misuse of AI without fear of retribution. By establishing a fair and transparent enforcement process, the policy can act as a deterrent to potential violators and maintain a high standard of academic integrity.

Continuous improvement is another key aspect of the policy. Given the rapidly evolving nature of AI technology, the policy needs to be flexible and adaptive. Regular reviews and updates should be conducted to incorporate new developments, address emerging challenges, and refine guidelines based on feedback from the academic community. Institutions should be encouraged to collaborate and share best practices, creating a collective effort towards improving AI governance in education. This collaborative approach can lead to the development of standardized practices and benchmarks that can be adopted nationwide.

In conclusion, the formulation of an AI policy for higher education institutions by the government is crucial to safeguarding academic integrity in the age of AI. Such a policy must emphasise transparency, fairness, accountability, and privacy, ensuring that AI technologies are used ethically and responsibly. By providing clear guidelines, robust training programs, effective monitoring, and a commitment to continuous improvement, the policy can help create an educational environment where AI enhances learning and research while upholding the highest standards of integrity. This proactive approach will not only protect the interests of students and faculty but also contribute to the broader goal of fostering trust and innovation in the academic sector.

5.4.5 Implications for Higher Education Institutions

The rise in academic dishonesty in higher education, exacerbated by factors such as increased academic pressure, the widespread availability of digital tools, and easy access to information online, underscores the urgent need for institutions to implement comprehensive training, awareness, and

counseling sessions focused on academic integrity. These initiatives are essential to educate students on the critical importance of maintaining academic honesty and understanding the severe consequences of academic dishonesty. Institutions must begin by integrating academic integrity education into orientation programs, ensuring that new students are aware of the institution's expectations and the resources available to support ethical behaviour. Regular workshops and seminars should be conducted to continuously reinforce the principles of academic integrity, covering topics such as proper citation practices, the ethical use of technology, and strategies for managing academic stress. These sessions can be enhanced by involving faculty members and external experts who can provide diverse perspectives and authoritative insights.

In addition to in-person sessions, creating online modules and resources allows for flexible and accessible learning opportunities. Interactive elements such as quizzes, scenarios, and case studies can engage students and deepen their understanding of academic integrity. Personalised counseling services should also be established, providing individual support to students struggling with academic pressures or ethical dilemmas. Academic counselors can help students develop effective time management and study skills, reducing the temptation to engage in dishonest behaviour, and can also address personal issues impacting academic performance, such as mental health concerns.

Peer mentorship programs can further support these efforts by leveraging the experiences of senior students who have demonstrated high standards of integrity. These mentors can offer practical advice and create a supportive community, fostering a culture of honesty among students. Faculty

collaboration is also crucial; institutions should provide training for faculty on how to detect and address academic dishonesty, as well as how to incorporate discussions on integrity into their curriculum. Faculty members can model integrity through their actions and interactions with students, reinforcing the importance of ethical behaviour.

The use of technology can enhance the effectiveness of these initiatives. Learning management systems can be utlised to disseminate information, conduct webinars, and track student participation in integrity programs. AI-driven tools can help monitor and prevent dishonest practices, providing an additional layer of security and accountability. Continuous evaluation and feedback are essential to ensure the effectiveness of these programs. Institutions should regularly seek feedback from students and faculty through surveys, focus groups, and feedback forms to identify areas for improvement and make necessary adjustments.

By implementing these comprehensive measures, institutions can create a robust framework that not only prevents academic dishonesty but also promotes a deeper, more meaningful engagement with learning and scholarship. Such efforts will help students appreciate the value of genuine effort and understand the long-term benefits of maintaining academic integrity. This proactive approach will ultimately contribute to a culture of honesty and trust within the academic community, ensuring that higher education institutions uphold the highest standards of ethical conduct and academic excellence.

5.4.5 Implications for Students and Parents in Higher Education Institutions

The implications of academic dishonesty extend far beyond immediate academic consequences, affecting both students and their parents significantly. For students, it is crucial to remember the intrinsic value of education as a pathway to personal and professional development. Engaging in dishonest practices undermines this value and can lead to severe repercussions, including increased unemployment and the devaluation of their degrees. Employers today are acutely aware of the skills and integrity required in the workforce, and academic dishonesty can lead to a questioning of the legitimacy of a student's qualifications. This skepticism can result in missed job opportunities, as employers may doubt the authenticity of the skills and knowledge that the student purportedly possesses. Consequently, students who rely on dishonest methods may find themselves ill-prepared to meet employer expectations, ultimately jeopardizing their career prospects.

In summary, students must recognize that education is a valuable asset that goes beyond obtaining a degree; it is about acquiring knowledge, skills, and ethical standards that will serve them throughout their lives. Engaging in academic dishonesty not only diminishes the value of their degree but also impacts their employability and future career success. Meanwhile, parents should avoid pressuring their children to achieve unrealistic academic goals, which can lead to unethical behaviour. Instead, they should support their children in developing a love for learning and a commitment to integrity, ensuring they are well-equipped to meet the demands of the modern workforce and succeed in their chosen careers.

5.5 Limitations and Suggestions for Subsequent Investigations

There are several limitations associated with the present study that should be highlighted. These limitations have been divided into six different sub-themes. Firstly, this study specifically focused on identifying the factors that influence academic integrity in Malaysian higher education institutions. It examined four independent variables: academic environment, social factors, academic culture, and students' motivations for academic integrity violations. In this study, the investigator applied a psychological techinque, employing feelings about themselves of events as a tool to determine specific acts and actions associated to academic misconduct (i.e., academic integrity violations).

All the data related to this study were collected from a PHEIs in Malaysia who volunteered to participate. This was done through a self-reported pre-experimental survey, post-experimental, and quiz questionnaire. Therefore, it is important to acknowledge that common source of bias and inaccuracies. Respondents may have been inclined to answer favorably to present themselves in a positive light. To address this issue, the researcher conducted Harman's single factor test as a post-preventive measure. This test aimed to determine if the majority of the variance in the data could be described by using a single factor. Harman's single-factor analysis results showed that there was no discernible common method variance.

However, it is recommended that future studies include additional sources of data and perspectives to complement the self-reported measures used in this study. For example, incorporating the viewpoints of university teachers and staff could provide a more comprehensive understanding of the factors influencing academic integrity in Malaysian higher education institutions.

Taking this broader approach may yield fresh perspectives into the issues surrounding academic dishonesty, perceptions of students' motivations for engaging in academic integrity violations and their career success. These insights could inform higher education policymakers to make more informed decisions to reduce incidents of academic misconduct among students in Malaysian higher education institutions.

Secondly, the researcher introduced experimental training modules to the students in the experimental group. However, it is important to note that these modules may not fully replicate the complexities and pressures of real-world academic environments. Additionally, it is worth considering that experimental training models primarily prioritise short-term outcomes and immediate behavioural changes rather than capturing the long-term effects of interventions on academic integrity. For instance, they may not account for sustained behavioural changes or the lasting impact of training on students' attitudes and practices. Moreover, it is worth mentioning that experimental training models often rely on self-reported data to measure changes in academic integrity, which is vulnerable to social desirability bias. In other words, participants may over-report positive behaviours or under-report violations, potentially biasing the results.

Furthermore, it is important to acknowledge that experimental training models typically focus on individual-level factors such as personal attitudes and behaviours, often overlooking systemic issues like institutional policies, academic culture, and administrative support. This narrow focus can limit our understanding of the broader factors that influence academic integrity. Another challenge is ensuring consistent implementation of training interventions across

different groups and settings. Variations in fidelity to the implementation can impact the outcomes and hinder our ability to attribute behavioural changes solely to the training itself. Consequently, this limitation can affect the external validity of the findings, making it difficult to generalize the results to actual higher education institutions in Malaysia. These limitations suggest that, while experimental training models can provide valuable insights, they may not fully align with or comprehensively evaluate the broader factors that influence academic integrity in Malaysian higher education institutions. Thus, further future scientific studies should strive to incorporate a variety of methodological approaches to address these gaps and offer a more comprehensive understanding of academic integrity.

Thirdly, there are methodological limitations in this study. The specific statistical and analytical methods utlised may possess their inherent limitations. Furthermore, the study heavily relies on self-reported data from students. However, self-reported data can be susceptible to various biases, such as social desirability bias, recall bias, and inaccuracies in self-assessment. These methods may not fully capture all the intricacies of the data, and there is a potential for biases in interpreting the data. This dependence on self-reported data could impact the reliability of the findings. Therefore, future researchers should consider employing a mixed research methodology and analysis tools to uncover the most prominent reasons for breaches of academic dishonesty in HEIs in Malaysia.

Fourthly, this study was exclusively conducted in a private higher education institution in Malaysia. Moreover, the sample size and demographic diversity of the participants may have been limited. As a result, the findings may

not accurately represent other universities in the country or institutions in different regions. The distinctive characteristics of the chosen university could have influenced the results, making it difficult to generalize the findings. To obtain more widely applicable and reflective results, a larger and more diverse sample should be employed. It is important to acknowledge that the findings may not apply to higher education systems in other countries due to the unique contextual factors of the Malaysian higher education system. Therefore, future researchers should take these limitations into consideration when replicating a similar study. So, future researchers may consider including samples from both private and public universities to help reduce any potential sampling bias and improve the overall representativeness of the higher education sector in Malaysia.

Finally, this study specifically focuses on the topic of academic integrity. It exclusively examines four independent variables, namely the academic environment, social factors, academic culture, and students' motivations toward academic integrity violations. However, it fails to consider the economic, political, and broader employment perspectives that also influence students' drive to attain higher grades to be competitive in the job market. Consequently, it is recommended that future researchers incorporate additional variables into their studies of a similar nature.

5.6 Summary of the Chapter

Academic integrity violations in higher education stem from a variety of factors, including student disinterest, lack of motivation, poor time management, and unrealistic expectations for grades. Institutional shortcomings also play a role, such as weak teacher-student relationships, rigid deadlines, outdated policies, and inadequate technological tools for detecting cheating (Ison & Szathmary, 2016). Social and cultural pressures, like parental expectations, societal recognition, and peer influence, further contribute to dishonest behaviour. Technological advancements, including the misuse of AI tools and outsourcing assignments, exacerbate the issue (Khoo & Kang, 2022).

To tackle these challenges, higher education institutions must focus on increasing student engagement, fostering better teacher-student relationships, and enhancing academic writing skills. Updating honour codes regularly and providing training on academic integrity are essential (Beketov & Lebedeva, 2022). Furthermore, investing in technology such as anti-plagiarism software is crucial (Nushi et al., 2017). A supportive learning environment that encourages active student participation and personal development is equally important (Cuadrado et al., 2019).

In the context of Malaysian higher education institutions (HEIs), academic dishonesty is a prevalent issue, with a significant portion of students admitting to plagiarism, collusion, and cheating. Key factors influencing this behaviour include peer pressure, lax attitudes toward cheating, and a lack of understanding of academic integrity guidelines. The study emphasises the need for a comprehensive approach that addresses both institutional and individual aspects of academic dishonesty.

The findings underscore the role universities play in combating academic dishonesty by nurturing an ideal educational enviomrent for academic honesty, raising awareness of ethical guidelines, and offering education on proper behaviour. These initiatives can significantly reduce incidents of dishonesty and contribute to a more ethical learning environment. Finally, collaboration between policymakers, educators, and HEIs is vital in creating a morally sound academic environment, which will enhance both the quality of education in Malaysian HEIs and the development of students.

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7.0 APPENDIX

1.7.1. Experimental intervention course outline

1.7.2 Quiz test questions and Mean Score

1.7.3 Ethical Clearance approval

1.7.4 Sources of Study Constructs

1.7.5 Cover Lette and Pre-post Experimental Survey Questionnaire