UNDERSTANDING MALE ENROLMENT IN MALAYSIAN HIGHER EDUCATION: ANALYSING INDIVIDUAL, SOCIAL, AND ECONOMIC INFLUENCES

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By

ZAKEE SAADAT

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Dedication

This thesis is dedicated to the loving memory of my two sons, Abdul Momin and Ghulam Muhammad. They were bright stars in the journey of our live; their passion for life was evident in every moment they struggled for their lives.

Abdul Momin and Ghulam Muhammad lived for a short time; tragically, they left an irreplaceable void in our family. Despite the pain, I find solace in the enduring memory they leave behind, touching the lives of those fortunate to know them.

It is for you, Abdul Momin and Ghulam Muhammad. I hope that, in some small way, this thesis honors your memory. You will always be loved and missed.

ABSTRACT
UNDERSTANDING MALE ENROLMENT IN MALAYSIAN HIGHER EDUCATION: ANALYSING INDIVIDUAL, SOCIAL, AND ECONOMIC INFLUENCES

Zakee Saadat

Malaysia is facing gender disparity in higher education institutions, where the proportion of female students surpasses that of male students. According to the data published by the Ministry of Education, this gender gap is transmitted through secondary school, where only 40% of participation is male. This raises significant concerns regarding male students' intentions and implies the necessity to study the factors affecting male students' pursuit of higher education. In this context, a hypothesized model was developed to examine the relationship between these identified factors in the current study. A representative sample of 411 secondary school students was selected for this study. Moreover, the theory of planned behavior is considered a theoretical basis to determine the relationship. The data was analyzed through structured equation modeling (SEM) using Smart PLS.

The findings largely supported the model with individual factors, including academic achievement and motivation, showing a significant positive relationship with the attitude of male students towards higher education. Furthermore, career outcome expectancy has a significant positive relationship with male students' intention to seek a university education. The determinants of TPB, including attitude and PBC, have a significant positive relationship with the intention of male students to pursue higher education. The study also demonstrated a significantly positive relationship between three determinants of TPB, including

attitude and subjective norm, and the PBC of male students pursuing higher education after school. In contrast, parents' influence and peer influence do not have a relationship with male students' intention to continue higher education; however, when analyzed with subjective norms as a mediator, this relationship between parents' influence and peer influence is fully mediated.

The findings of this study significantly contribute towards an existing body of knowledge in understanding the decision factors of male students. Theoretically, the study combines the individual, social, and economic factors with the TPB determinants to assess the theoretical propositions and explain the intention of male students to pursue higher education. Practically, the exploration of the study can guide stakeholders in undertaking collaborative efforts to devise policy parameters that foster motivation, positive attitudes, and promising career prospects for increasing male representation in higher education institutions. Likewise, a collaborative effort to engage parents, community, and society to promote control and social beliefs among male students can develop their intent to pursue higher education. By keeping male students in education, stakeholders can foster the integrity and well-being of educational institutions, thus promoting gender equity among students. Proactively engaging male students in higher education can harness society's social and economic balance.

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This achievement results from the collective support and encouragement from each of you. I am profoundly grateful for each person's role in making this academic milestone a reality.

APPROVAL SHEET

This thesis entitled "**UNDERSTANDING MALE ENROLMENT IN MALAYSIAN HIGHER EDUCATION: ANALYSING INDIVIDUAL, SOCIAL, AND ECONOMIC INFLUENCES"** was prepared by ZAKEE SAADAT and submitted as a partial fulfillment of requirement for the degree of Doctor of Philosophy (Social Science) at Universiti Tunku Abdul Rahman.

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SUBMISSION SHEET

FACULTY OF ARTS AND SOCIAL SCIENCE

UNIVERSITI TUNKU ABDUL RAHMAN

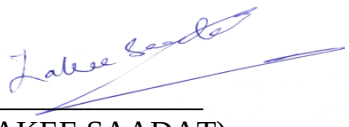
Dated: 4th April, 2024

SUBMISSION OF THESIS

It is hereby certified that ZAKEE SAADAT, ID No: 20AAD00259, has completed this dissertation entitled "UNDERSTANDING MALE ENROLMENT IN MALAYSIAN HIGHER EDUCATION: ANALYSING INDIVIDUAL, SOCIAL, AND ECONOMIC INFLUENCES" under the supervision of Dr M Sultana Alam (Main Supervisor) from the Department of Journalism, Faculty of Arts and Social Science, Dr Pragash a/I Muthu Rajan (Co-Supervisor) Department of Advertising, Faculty of Arts and Social Science.

I understand that the University will upload a softcopy of my dissertation in PDF format into UTAR Institutional Repository, which may be made accessible to UTAR community and public.

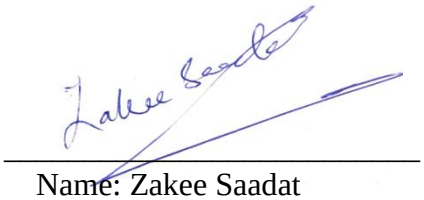
Yours truly,



(ZAKEE SAADAT)

DECLARATION

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



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LIST OF ABBREVIATIONS

UNESCO	United Nations Educational, Scientific and Cultural Organization
OECD	The Organization for Economic Cooperation and Development
SPM	Sijil Pelajaran Malaysia
STPM	Sijil Tinggi Persekolahan Malaysia
HEPI	Higher Education Policy Institute
GPI	Gender Parity Index
SEM	Structural Equational Modelling
AVE	Average Variance Extracted
EVT	Expectancy Value Theory
SCT	Social Cognitive Theory
TPB	Theory of Planned Behavior
PBC	Perceived Behavior Control
TRA	Theory of Reasoned Action
COE	Career Expectancy Outcome
PLS-SEM	Partial Least Square Structural Equation Modeling
CB-SEM	Covariance-based structural equation modeling
HTMT	Heterotrait-monotrait ratio of correlations
SPSS	Statistical Package for Social Sciences

CHAPTER ONE

INTRODUCTION

1.1 Background of the Study

Historically, higher education has observed male dominance, as demonstrated by institutions like Oxford University, which has exclusively admitted male students for nearly 800 years (Horne, 2017). Such institutional policies keep male participation greater in higher education institutions for a long time. An educational digest from UNESCO characterized the segment on higher education as "a man's world," underscoring the predominant position of males (Tienxhi, 2017). Notably, it was only in the 1920s that female students gained entry to UK universities, marking a pivotal shift (Wan, 2012).

The subsequent influx of female students initiated an incremental shift in the trend of gender representation in higher education, which led to notable advancements in the following decades. Consequently, there was a steady shift in the participation of women in higher education. Notably, a proactive rise in female involvement began transforming this environment in the 1980s, leading to a progressive increase in their participation within higher education institutions (Guramatunhu, 2015). From 1988 to 1990, women achieved parity with men in certain countries, as highlighted by a UNESCO report 2010 (UNESCO, 2010).

More recently, there has been a notable shift in the higher education landscape, characterized by a reversal in gender participation, where female students have begun to outnumber their male counterparts. This phenomenon is commonly referred to as the changing gender participation within higher education (Wan, 2018).

The phenomenon of changing gender participation within higher education has been demonstrated to have a worldwide occurences. According to UNESCO (2012), there has been a notable six-fold increase in female enrollment in higher education institutions worldwide from 1970 to 2000. Globally, more than half of the students in higher education are female. Most countries have a higher ratio of female participation in higher education institutions, with over 50 percent female (UNESCO, 2012). This global trend was termed the 'changing gender disparity' in higher education, and it became evident when the data from 93 out of 146 countries showed greater female participation as a global trend (David, 2016).

Globally, the increase in female participation is especially noticeable in developed and industrialized countries. Evidence from the OECD countries showed that female involvement in higher education increased between 1980 and 1990. In 1985, only 'five' highly industrialized countries had greater female participation rates in higher education institutions, but by 2000, that number had climbed to 'sixteen' countries (Vincent-Lancrin, 2008). This trend of greater female participation is also apparent in developed nations such as the United

Kingdom, where approximately 60 percent of females are engaged in higher education institutions. The Higher Education Policy Institute (HEPI) characterized this situation as a 'national scandal,' emphasizing that women are 35 percent more inclined to pursue higher education, potentially resulting in a disadvantaged position for male students in accessing higher education opportunities (Tienxhi, 2017; Weale, 2016).

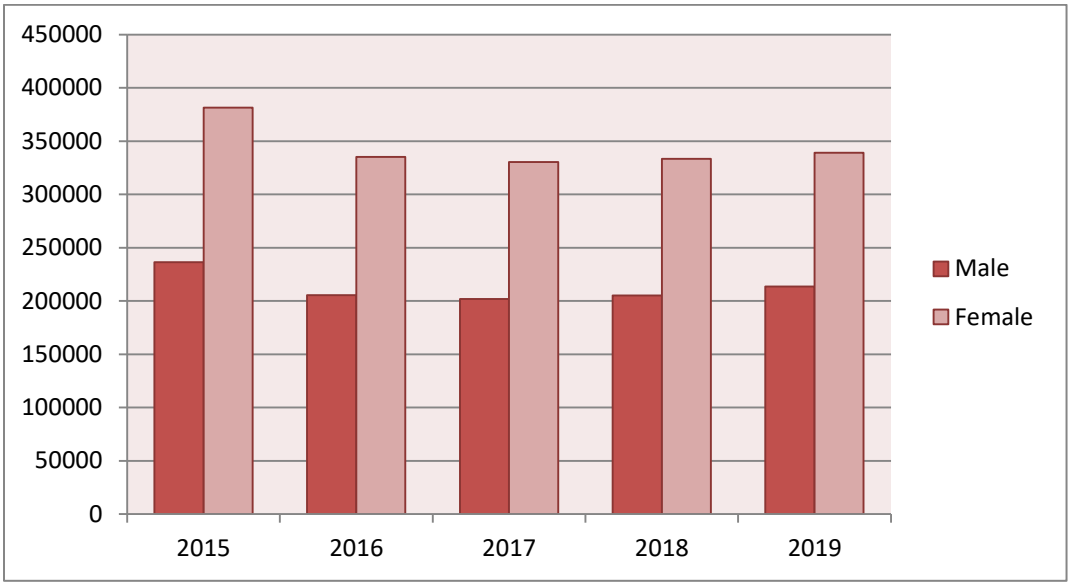
Similarly, in the United States, females are more likely to pursue higher education than males. According to a study by ASSAF (2016), on average, 55% of enrollees in higher education institutions are female, while 45% are male across all US states. Likewise, Norway has experienced a notable increase in female student enrollment, leading to a higher Gender Parity Index (GPI) favoring females within higher education institutions (Norwegian Statistics Bureau, 2018). This discrepancy underscores a gender disparity present in academic settings. The skewed gender balance primarily stems from the increasing enrollment of females, who exhibit a greater inclination than males to pursue advanced education for various reasons. Consequently, females are increasingly attaining significant educational milestones, prompting a reversal of the gender gap in higher education.

The shift in gender participation is not exclusive to developed nations. Several developing countries, such as Japan, Malaysia, and Indonesia, encounter comparable circumstances (Olson-Strom & Rao, 2020). Malaysia is a notable

example of severe gender disparity in higher education institutions, particularly among these countries. It is continuously struggling to get equal gender access and opportunity in the country's higher education sector (Wan, 2018).

While Malaysia has made significant progress in its higher education sector due to increased funding allocations, these initiatives have widened the reach of higher education. However, this progress has led to various outcomes, encompassing advantages and challenges in higher education (Wan, 2018). The benefits include an increase in the number of students enrolled in higher education, while challenges include an imbalance in gender involvement (D. Liu & Morgan, 2018; Tienxhi, 2017; Wan, 2018). This inclination of gender imbalance in the Malaysian higher education sector has gained severity over the last two decades. The changing role of gender imbalance started in the late 1990s when females reached parity with male participants, especially in Malaysia's public sector universities (Ismail, 2015). This phenomenon was referred to as the "reversal of gender participation" in higher education (Saadat & Sultana, 2023; Tienxhi, 2017). In this context, Wan (2012) was the first to draw attention to gender reversal, noting that in 2009, female enrollment constituted 56% of the total gross enrollment in Malaysian higher education institutions. Subsequent statistical data for the academic years 2013-14 underscored a notable gender distribution, revealing a proportion of 58% female and 42% male participation within this higher education (Ministry of Education, 2014). This marked a significant variance in the representation of genders within Malaysian higher

education institutions. More recent data further highlight this changing nature of gender participation across Malaysian higher education institutions. The Ministry of Education Malaysia maintains a consistent practice of releasing annual statistics concerning higher education. Based on this data, the graphical representation below provides visual assistance, effectively depicting changing trends in gender participation.



Source: Malaysian Education Statistics, Ministry of Education, (2014-2019)

Figure 1.1: Student Enrollment in Malaysian Higher Education

The graph above displays the number of male and female participants enrolled at Malaysian higher education institutions over the previous five years. A clear pattern appears in which female participation surpasses that of male counterparts, resulting in a significant increase in overall enrollment of females compared to male participants. Nonetheless, the difference had decreased in 2017; however, female participation continued to outnumber male students.

According to Ministry of Education figures, 400,269 female students attended Malaysian higher education institutions in 2017, accounting for 58% of the student body, while 289,067 male students comprised the remaining 42%. This data revealed a clear gender imbalance favoring female involvement. Gender proportions continued to fluctuate in subsequent years. By 2018, the situation had changed, with female involvement increasing to 60% and male participation remaining at 40%. This pattern continued, and the difference widened in 2019 (Ministry of Education, 2018, 2019).

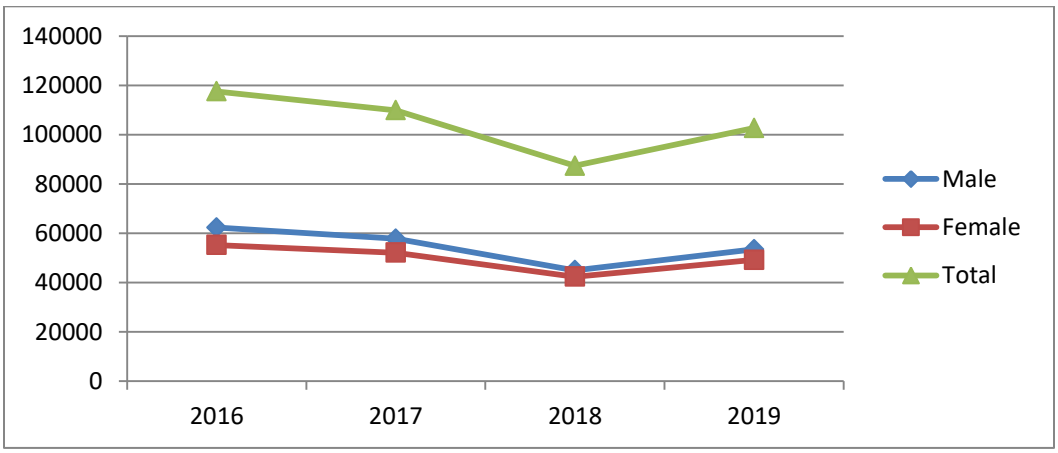
Gender indexes have also revealed the adverse status of male participants in higher education in terms of increased female participation. The GPI is a widely used technique for measuring the gender gap, and the standard GPI ranges from 0.9 to 1.2 according to UN standards (UNESCO, 2018). In the context of Malaysian higher education, GPI is calculated to be 1.3, stating a significantly higher ratio of female to male students in higher education (Tienxhi, 2017). The higher GPI explains the imbalance by demonstrating that for every male student, nearly three female students are enrolled in Malaysian higher education institutions, highlighting the low male representation.

The absence of adequate male representation in higher education institutions necessitates a thorough investigation of men's transition from secondary school to university. In this context, Ismail (2015) found significant evidence of gender inequality in secondary schools, contributing to the imbalance reported in Malaysian higher education institutions. It highlights the importance of assessing

gender participation in secondary schools using current gender participation numbers. It will explain whether this disparity persists from the school level and translates toward higher education. For this purpose, it is important to consider the statistics on gender participation at each level of school education.

The Malaysian school education system includes primary, lower secondary, and upper secondary, followed by SPM exams, and these exams are conducted at the national level. After clearing SPM, students can join a formal education in university preparation known as STPM or go for non-formal education through polytechnic institutes (Clarke, 2014).

It entails looking at the data on education at a basic level, i.e., primary (lower sixth level). In this context, the school education statistics show no disparity until the lower six secondary levels of education. The graph below elaborates on the situation of gender participation till the lower six secondary levels.

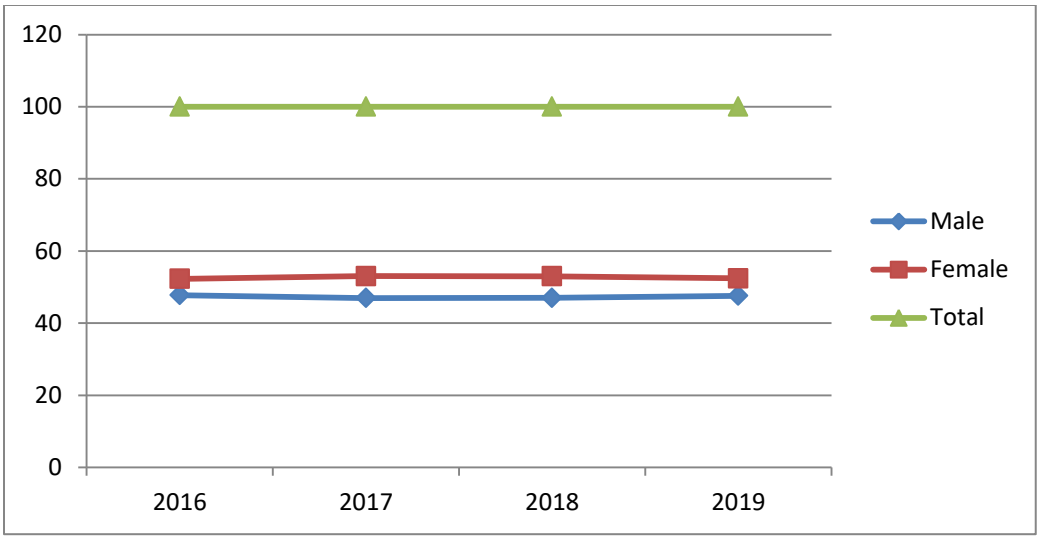


Source: Malaysian Education Statistics, Ministry of Education, (2017-2019)

Figure 1.2: Student Enrollments in Secondary School (Form 5)

Figure 1.2 depicts a comparison of male and female enrollment for Form 5 students, demonstrating that male students are slightly more abundant in participation numbers as a blue line (representing male participation) stands slightly above the red line (representing female participation), indicating that there is little difference between both gender participation. As for 2016, the gap between males and females is more prominent, and this gap is closing by 2019, showing parity in secondary-level education and no gender disparity at this level (Ministry of Education, 2019).

The data illustrates no gender difference in lower secondary schools; however, it becomes imperative to investigate and address this imbalance as education progresses through subsequent stages of the education system. SPM (Sijil Pelajaran Malaysia) is the next step after lower secondary school. Clarke (2014) defines it as a national-level education examination for all required fifth-form secondary-level pupils. In this context, it is critically important to observe gender participation at the SPM level. Figure 1.3 depicts the gender participation based on the number of students who appeared in SPM exams.



Source: Malaysian Education Statistics, Ministry of Education, (2017-2019)

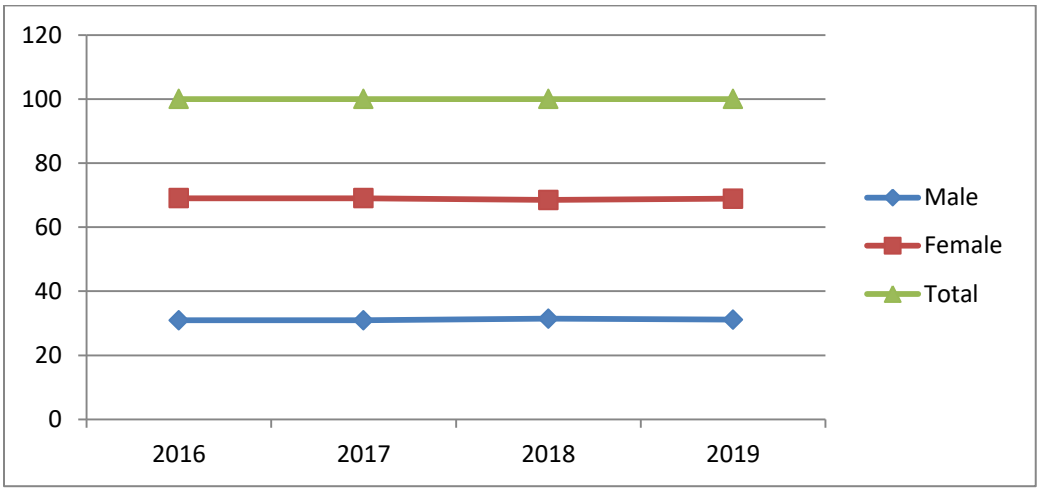
Figure 1.3: Percentage of Students in SPM (2016-2019)

Figure 1.3 illustrates that females participate in SPM more than males, but the difference is minimal. Females comprised 51.9 percent of participants in 2016, while males comprised 48.9 percent. The GPI is 1.03, which falls under the standards of the GPI. The difference persists, with very few differences between male and female participation. This difference widened slightly in 2019, with 52.4 percent females outnumbering 47.6 percent males. It relates to the GPI of 1.09, which falls below the mandated parity range determined by UNESCO (Ministry of Education, 2017, 2019).

The preceding data shows no noticeable gender difference at the SPM level. As a result, it is even more critical to look into data regarding subsequent education stages to comprehend the situation better. In such a scenario, SPM completion follows two pathways; one is formal education, and the other is informal education. The formal education includes two grades (lower 6 and upper

6) pre-university preparations. This preparation is for STPM (Sijil Tinggi Pelajaran Malaysia), ultimately leading students towards university education.

In contrast, an informal pathway leads to polytechnic education, leading students towards skill development (Clarke, 2014). The next important step is to demonstrate gender participation in STPM, which will give a better understanding of gender participation at the university level. Although more than 90% of students took the public-level STPM in 2018 (Ministry of Education, 2018), the issue requires a look at gender participation statistics. In this quest, the figure 1.4 depicts the most recent statistics on the appearance of public STPM exams based on gender.



Source: Malaysian Education Statistics, Ministry of Education, (2017-2019)

Figure 1.4: Percentage of Students in STPM (2016-2019)

Figure 1.4 depicts the gender participation percentages in higher secondary education institutions at the STPM (Sijil Tinggi Persekolahan Malaysia) level. The data presented in this figure unveils a distinct disparity in the extent of male

and female involvement in STPM examinations, shedding light on a crucial aspect of the educational landscape in Malaysia.

The statistics showed a noticeable difference in the participation rates of male and female students. In 2016, the data indicates that more than 61% of female students were engaged in the STPM examinations, in contrast to the participation of male students, which stood at 38%. This pattern continued in successive years, with more than 60% female involvement and fewer than 40% male participation in 2018 and 2019. The consistency of this trend line over the years highlights a persistent gender imbalance in terms of participation in STPM examinations.

Male students being notably absent raises a pivotal question: where does this portion of male students divert? They might study abroad or pursue alternative employment or skill-based work opportunities. Unfortunately, there are limitations stemming from a lack of recent statistics that could provide insight into the number of Malaysian students, categorized explicitly by gender, pursuing higher education abroad. However, UNESCO published data on Malaysian students studying abroad and reported 55,144 students (UNESCO Insitute of Statistics, 2022). This only accounts for 1.5% of the total students studying in Malaysia.

Consequently, assuming that all absent male students choose to go for international education is inadequate. Only a small fraction of these students make this choice. Furthermore, this UNESCO data suggests a collective number of male and female students, making it difficult to determine the number of male students accurately. Therefore, while this data offers a particular outlook, its limitations emphasize the need for more comprehensive information to draw definitive conclusions about the destination and preferences of male students apparently absent from the local higher education institutions.

These findings thus bring into focus a noteworthy educational phenomenon—male students in Malaysia are noticeably less inclined to pursue STPM studies. The implications of this observation are substantial and warrant further exploration into the underlying factors influencing the decision-making processes of male students concerning their educational pursuits. Ascertaining these factors is essential not only for understanding the dynamics of gender participation but also for formulating effective strategies to address the observed disparity and promote more equitable educational outcomes (Ismail, 2015).

To date, no research has examined the factors that affect the intention of male students to pursue higher education, which is transmitted through secondary education in Malaysia. The area of male student intention in secondary education remained unexplored. Hence, this study aims to address the issue of gender disparity by studying the factors that affect the intent of Malaysian male students

to pursue higher education, which translates into the gender gap in higher education qualifications.

1.2 Problem Statement

Although Malaysia has grown in the higher education sector, especially regarding access to higher education, whereby more than 70 percent of students are pursuing higher education (Ministry of Education, 2019), these developments inevitably have undesirable repercussions on gender participation (Ismail, 2015). One of the critical problems is the reverse gender gap in Malaysia's higher education sector. This reversal of gender participation implies fewer males than females.

Officials at the state level highlight the severity of gender reversal in higher education institutions in Malaysia, stating it is a significant policy issue. As former prime minister Mahathir Muhammad asked earlier in this century, “Where are the Bhumiputera?” translated as Where are the sons of soil? Are they not interested in education? (Khoo, 2003). The federal government of Malaysia has also referred to the term ‘lost boys”, referring to 56 percent of female students' participation compared to 44 percent of male student participation in Malaysia Education Blue Print 2013-15 (Ministry of Education, 2013). The recent data on public sector universities states that 282,193 (40%) male and 406,761 (60%) female students were enrolled in 2018 (Ministry of Education, 2019). At the same

time, the population of Malaysia shows that there were 50.5% males and 49.5% females in the year 2020-21, which has remained relatively stable over the years with minor fluctuations (Department of Statistics Malaysia, 2022). The findings show a clear difference in the distribution of males and females in both the general population and higher education, demonstrating major differences between the two groups. These gender participation statistics and statements from state officials underscore the phenomena of gender gap reversal and underline the need to address the issue in higher education institutions.

The reversal of gender participation has been observed in both private and public institutions. Wan (2018) stated that in private universities, the male-female ratio is somewhat less alarming, whereas, in public universities, the male is more disadvantageous, with only 35% participation. This gender gap in public sector universities can also be assessed through a GPI, a standardized tool for assessing gender participation (UNESCO, 2012). Tienxhi (2017) stated that the GPI is critically disturbing as 13 out of 20 public sector universities have a gender parity index above 1.5 and demonstrate well above the stipulated standards of the GPI by UNESCO. It refers to a more disadvantageous situation for males, particularly in Malaysia's public sector universities. This gender gap between males and females in higher education is transmitted through secondary education, as discussed in the previous section of the study. This evidence is substantially backed by Malaysian education data, which show that the gender distribution of the general population is roughly equal to that of students studying at schools

until SPM, with 51% male and 49% female participation (Ministry of Education Malaysia, 2021). In higher secondary schools, however, it gets compromised and even worse in further higher education institutions. Similarly, Ismail Latifah has demonstrated that gender disparities in higher education are caused by lesser male involvement in secondary school. If this disparity persists for longer, it could result in a significant societal imbalance, with severe economic and political consequences that could hinder the development (Ismail, 2015).

To reaffirm the reality, it is evident that male students in Malaysia are inadequately represented at the STPM (secondary school) level. The Ministry of Education (2018) reflects in the data that 32.2% of males and 68.8% of females are at STPM level education. This disparity prevails due to certain factors that vary between males and females. Ismail (2015) found out that males are less motivated and determined. They are not serious about their studies, have fewer academic achievements, are unaware of life goals, and prefer technical education and early work, so they drop out of formal education.

Similarly, Tienxhi (2017) established that males lack academic achievement. At the same time, parental, peer, social influence, and career expectations tend to have more effect on male students partaking in education, especially at the secondary school level (STPM), thus leading towards low participation in higher education. Wan (2018) found that socioeconomic background and financial priorities affect student intention towards higher

education, particularly in Malaysia. In contrast, institutional involvement could entail students with low socioeconomic backgrounds moving toward higher education.

Wan (2018) and Tienxhi (2017) based their studies on exploratory findings, whereas Ismail (2015) studied the responses of students who are already enrolled in higher education, directing both genders. As future research prospects, these studies highlighted the essence of looking at the factors causing male students to leave their education before entering higher education institutions in Malaysia. It entails the need to study empirically the factors that affect the male student's decision to pursue higher education. The observed problem requires to be addressed at earlier stages of education, i.e., before entering into higher education (at the STPM level), because most male students drop out of education at the STPM level (Tienxhi, 2017; Wan, 2018). Based on the abovementioned problem, it is essential to assess factors that affect male students' intentions at the secondary school level (particularly STPM) in Malaysia. Hence, research is required that attempts to understand the factors causing male disparity while analyzing factors that tend to have a relationship with the intention of male students toward higher education.

Previous research has proposed that students' intentions to pursue higher education are subject to various personal, social, and economic factors. Personal attributes include motivation, attitude, and academic performance. The social

factors highlight the determinants, such as parental and peer influence. Furthermore, economic considerations, including career aspirations and socioeconomic status, have been identified as significant influencers in shaping students' intentions toward higher education. (Afzal & Rashid, 2018; Deka, 2016; Eidimtas & Juceviciene, 2014; Fajčiková & Urbancová, 2019; Hegna & Smette, 2017; K. Hillman, 2010; Loh et al., 2014; Md Talib et al., 2019; Menon et al., 2017; Rika et al., 2016; Rock, 2010; Temple, 2009; Wadhwa, 2017; Wagner & Fard, 2009). This necessitates studying and evaluating these factors to assess male students' intentions and decision processes, particularly in Malaysia.

In this context, the current study examines the factors that ultimately contribute to the intention of Malaysian male students studying in secondary schools to pursue higher education. Furthermore, to address the above-discussed problem, this study aims to investigate the relationship between personal factors, including attitude, motivation, and academic achievement, and the intention of male students to pursue higher education in Malaysia. It is further intended to examine the impact of social and economic factors, i.e., parental influence, peer influence, career prospects, and socioeconomic status, of male students translating towards the intention of male students to pursue higher education by taking the theoretical basis from the TPB.

1.3 Research Gap

The issue of less male student participation in higher education has recently gained notable prominence. Despite the growing concern in this matter, there is limited research in this particular domain. While there is an extensive body of literature on higher education participation, the specific focus on male students leaving education after the school level is noticeably lacking.

According to recent research by O. L. Liu et al. (2022), it is evident that the lack of participation of male students in higher education is a complex issue that can impact society at large. However, this phenomenon may particularly affect male students due to their distinctive settings of being left out of higher education. This exclusion can be based on various factors, such as individual, social, and economic. While multiple studies have examined the challenges students face, there is a distinct deficiency of research that holistically investigates male students' intentions and behaviors toward higher education.

Furthermore, the existing research background predominantly concentrates on broader issues of education and gender disparities rather than comprehensively examining the specific concerns of male students left out of higher education. This gap in the literature leaves a critical void in our understanding of the factors that assist male students and the potential interventions required to address this particular issue. In addition, the inability to understand the complexities of this

phenomenon is vulnerable to the lack of a theoretical framework, making it challenging to develop feasible solutions.

In order to address the issue, it is imperative to look into the underlying causes of male students' underrepresentation in Malaysian higher education, which results from their dismissal from secondary school. In this context, the current study adopts a comprehensive approach to identify and analyze the diverse factors that lead to the insufficient participation of male students in Malaysia's higher education system. In contrast to prior research, which often examined only a restricted range of dimensions, this study seeks to explore a range of relevant factors associated with the underrepresentation of male students who do not advance their studies beyond the secondary school level.

In this context, the primary objective of this study is to examine personal, social, and economic factors that collectively influence the decision-making processes of male students, thereby contributing to their progression from secondary school to higher education. By investigating this comprehensive diversity of factors, the study aims to get a deeper and more subtle understanding of male students' decision process.

Researchers have looked into the phenomenon of gender disparity in higher education, but none of the research focuses on male students. Moreover, the existing literature lacks an assessment of the factors that influence the intentions

of male students. There is currently no study in the current literature that comprehensively combines all relevant factors and establishes a robust theoretical foundation for evaluating the intentions of male students. It is also pertinent to mention that none of the studies has utilized the SEM model with a combination of all the personal, social, and economic factors to assess the intention of male students toward higher education based on a credible theoretical basis. In this background, it becomes evident that in the existing scholarly literature, there lies a significant research gap, and this gap underscores the necessity for conducting further research that not only rests on a theoretical foundation but also encompasses a representative sample that can be extended to the broader context. A tabulated representation has been developed to clearly and concisely illustrate the research gap in the current body of knowledge. Refer to Table 1.1 for a visual representation of this research gap.

Table 1.1

Research Gap

Study	Personal Factors	Social Factors	Economic Factors	Theoretical Foundation	Focus on School Students	Male Students	Malaysian Context
(Wan, 2012)	✔	✘	✘	✘	✘	✘	✔
(Ismail, 2015)	✔	✘	✘	✘	✔	✘	✔
(Edannur & Firsad, 2015)	✘	✘	✔	✔	✘	✘	✘
(Castillo-Manzano et al., 2016)	✔	✔	✔	✘	✘	✘	✘
(Wan, 2018)	✘	✔	✔	✘	✘	✘	✔
(Tienxhi, 2017)	✘	✘	✘	✘	✘	✘	✔
(Carlhed, 2017)	✔	✔	✘	✘	✘	✘	✘
(Menon et al., 2017)	✔	✔	✔	✘	✘	✘	✘
(Afzal & Rashid, 2018)	✔	✔	✔	✘	✘	✘	✘
(Sá & Tavares, 2018)	✔	✘	✘	✘	✘	✘	✘
(Sánchez & Singh, 2018)	✘	✔	✔	✘	✘	✘	✘

(Nausheen et al., 2019)	✔	✔	✖	✖	✖	✖	✖
(Shields & Peruta, 2019)	✖	✔	✖	✖	✖	✖	✖
(Jung & Lee, 2019)	✔	✔	✔	✖	✖	✖	✖
(Md Talib et al., 2019)	✔	✖	✖	✔	✖	✖	✔
(Mahdzar et al., 2022)	✔	✖	✖	✖	✖	✖	✖

1.4 Research Questions

This study aims to analyze the factors that affect the intention of male students studying in secondary schools to better understand the issue of low male enrollment in Malaysian higher education institutions. In quest of these findings, this study will attempt to answer the following research questions.

1. What is the relationship between individual factors (motivation, academic achievement) and the attitude of secondary school male students towards higher education in Malaysia?
2. What is the relationship between social factors (parents' influence, peer influence) and the intention of secondary school male students to pursue higher education in Malaysia?
3. What is the relationship between economic factors (career expectations, socioeconomic status) and the intention of secondary school male students to pursue higher education in Malaysia?
4. Does subjective norm mediate the relationship between parents, peer influence, and the intention of secondary school male students to pursue higher education in Malaysia?
5. What is the relationship between the TPB determinants (attitude, subjective norms, and perceived behavioral control) and the intention of secondary school male students to pursue higher education in Malaysia?

1.5 Research Objectives

1. To determine the relationship between individual factors (motivation, academic achievement) and the attitude of secondary school male students towards higher education in Malaysia.
2. To determine the relationship between social factors (parents' influence, peer influence) and the intention of secondary school male students to pursue higher education in Malaysia.
3. To determine the relationship between economic factors (career expectations, socioeconomic status) and the intention of secondary school male students to pursue higher education in Malaysia.
4. To determine the mediating role of subjective norms between parents, peer influence, and the intention of secondary school male students to pursue higher education.
5. To determine the relationship between the TPB determinants (attitude, subjective norms, and perceived behavioral control) and the intention of secondary school male students to pursue higher education in Malaysia.

1.6 Research Scope

This study aims to find the relationship between factors affecting the intention of male students towards higher education. As male students are

deprived of participation in higher education in Malaysia, it is pertinent to study the intention factors of male students. In this regard, the scope of this research is limited to male students who intend to pursue higher education. It includes male students in secondary school education, particularly between SPM and STPM levels. The current study will focus only on factors pertinent to the intention of male secondary school students of Malaysia who are formally involved in the education process.

1.7 Significance of the Study

Higher education has many significant aspects for male students in the current era. Firstly, it remains a crucial pathway to personal and professional development (Menon et al., 2017; Mulà et al., 2017). Higher education allows individuals to develop knowledge, skills, and competencies to help them succeed in their chosen careers and contribute positively to society (Chan, 2016). Secondly, higher education is essential for economic growth and development. Countries that invest in higher education tend to have more prosperous and innovative economies, as higher education institutions produce skilled and knowledgeable graduates who can drive economic growth and technological advancement (Cvecic et al., 2019; Hill et al., 2005). Thirdly, higher education is crucial in advancing scientific research knowledge. Higher education institutions are often at the forefront of scientific research and are responsible for medical, engineering, and technology breakthroughs (Kearney, 2009).

In this context, the present study will concentrate on the variables influencing male students' lower enrollment in secondary school in Malaysia. This male disparity in secondary education is transmitted towards higher education. This study is significant because it aims to study the factors that affect male students' intentions. It will highlight the importance of potential personal, social, and financial considerations contributing to male students' choices to study or leave post-secondary education. This study entails analyzing the factors considered to help establish a better understanding of the decision priorities of these male students in Malaysia. The findings can contribute towards theoretical development and practical implications for stakeholders involving male students, higher education institutions, parents, and policymakers.

From a theoretical perspective, this study will address the factors that affect male students' intentions, thus leading to an enhanced understanding of male students' decision processes that could help improve the participation of male students in secondary schools in Malaysia. This study also uses the TPB to assess the potential factors influencing the intention to pursue higher education. As TPB is an essential theory to evaluate educational intention (being an integral part of behavioral intention), in this view, a valuable contribution can be gained to assess the potential relationship between considered factors and male intention to pursue higher education (Cooper et al., 2016). This study will ultimately contribute towards extending TPB in the educational sector by incorporating important factors and finding the relationship between proposed factors. Crane et al. (2016)

state that contribution to theory includes an explanation of constructs that can be generalized and provide a broader range of understanding of the phenomena. In this context, a study examining factors affecting male students' intention to use TPB through a statistical approach and generalized research design can provide a broader range of explanatory value towards disturbed gender participation in Malaysian higher education institutions. This study will further highlight the belief and behavioral intention factors affecting decision process of male students. Furthermore, this study will provide improved understanding on studied factors that can be deployed as “change agents” for increasing male students’ interest towards higher education thus avoiding gender disparity in the higher education sector of country.

Practically, this study will be a breakthrough for policy-making institutions in the education sector. In Malaysia, it is imperative to investigate the reasons contributing to gender differences in higher education, as men who participate in higher education tend to get lower. It is transmitted through secondary school. This situation can cause a severe social imbalance, disturbing social indicators regarding gender participation in the distinguished workplace and other economic activities (Ismail, 2015). In order to avoid these repercussions, it is crucial to study the relationship between the individual, social, and academic factors contributing to the intention of male students to pursue higher education.

Current research focuses on the factors influencing secondary school male students' desire to continue their education in Malaysia, which has significant societal ramifications. Primarily, this study serves as a means to address gender inequalities prevalent in higher education. It can guide the formulation of evidence-backed policies and initiatives to enhance gender parity in accessing and achieving education by identifying the factors deterring male students from pursuing higher studies. Consequently, fostering a more inclusive and balanced gender representation within higher education institutions might ensue. Furthermore, the study's findings can help guide the formulation of targeted policies that will benefit Malaysia's economy. Encouraging more male students to seek higher education can boost the country's human capital, productivity, and innovation. A well-educated workforce is critical to national and global economic growth and competitiveness.

Promoting the pursuit of higher education among male students carries implications for personal and societal empowerment. It enables individuals to actualize their capabilities, accomplish career aspirations, and make meaningful societal contributions. This empowerment can have a broader positive impact on families and communities, enhancing social cohesion and unity within Malaysian society.

1.8 Definition of Terms

Operational definitions have been established to guarantee conceptual clarity and coherence of understanding of the variables utilized in this study of male students' intentions to pursue higher education. These definitions are intended to describe the essential topics used throughout the study. Table 1.2 provides operational definitions and reference points for each parameter studied. This method allows for a more thorough understanding and consistent interpretation of the variables regarding male students' intentions to pursue higher education.

Table 1.2

Operational Definitions of Terms

Variable	Definition	Theory/Reference
Motivation	Motivation can be defined as a desire to achieve a scholarly attitude or goal; it simulates the set of purposive actions for achieving future academic goals.	Individual Factors TPB/(Schunk, 2000)
Academic achievement	Academic achievement is performance output in intellectual domains taught at school, college, or university.	Individual Factor TPB/(Ramachandran, 2012)
Parents Influence	Parents' influence is considered a "purposeful part of students' experience in determining future educational performance and goals attainment."	Social Factor TPB/(Fan & Williams, 2010)
Peer Influence	Peers refer to "the group that acts as a frame of reference to evaluate	Social Factor TPB/(Kuipers, 2010)

	belief, abilities, and behavior."	
Career Outcome Expectancy (COE)	COE in educational settings refers to "the expectations of students for future work."	Economic Factor /(Tomlinson, 2008)
Socioeconomic Status	Socioeconomic status refers to "the monetary and communal standing of parents." It is a composite measure of an individual's sociological and economic standing.	Economic Factor /(Winters-Miner et al., 2015)
Attitude	Attitude in an educational context is "positive or negative feelings toward education, and it is an inclination towards learning or pursuing education."	Determinant of TPB/(Ajzen & Fishbein, 2005; Lovelace & Brickman, 2013)
Subjective Norms	Subjective norms refer to an "individual's acceptable behavior within a group or community and how this perception influences an individual's decision to pursue higher education."	Determinant of TPB/(Ajzen, 1991; Knabe, 2012; Steinmayr et al., 2012)
Perceived Behavioral Control	"An individual's belief in their ability to control their actions and behavior related to engaging in higher education, including the resources and support available to them to make positive choices."	Determinant of TPB/(Ajzen, 2006)
Intention to pursue higher education	"An individual's decision to engage in higher education."	Determinant of TPB/(Ajzen, 2006, 2012)

CHAPTER TWO

REVIEW OF LITERATURE

2.1 Introduction

In this chapter, we thoroughly assess the literature on the variables influencing gender difference in higher education, emphasizing understanding male students' decision-making process when pursuing higher education. This chapter is critical in creating the research hypotheses and building the theoretical and conceptual foundation of the study.

The primary objective of this chapter is to synthesize existing research on the gender gap in Malaysian higher education institutions transmitted through schools. It probes into the multifaceted interplay of personal, social, and economic determinants, explaining their significance in shaping educational decisions. This chapter also highlights the theoretical underpinnings of research by explaining how the TPB supports the conduct of this study. This theoretical framework provides a solid foundation for comprehending the factors affecting male students' educational selections. This chapter serves as a vital basis for more significant research work, providing an in-depth review of the available literature and setting the basis for formulating research hypotheses, theoretical foundations, and conceptual research framework.

2.2 Gender Disparity in Malaysian Higher Education Institutions

In recent years, the global focus on increasing access to higher education has yielded both intended and unintended consequences in numerous countries, as noted by scholars (Mukerji & Tripathi, 2016). While this effort to enhance access has broadened educational opportunities, it has also brought about a significant shift in the gender balance within the higher education sector. Developed nations, in particular, have experienced a noteworthy reversal of gender participation, sometimes called 'missing boys' (Riphahn & Schwientek, 2015; Vincent-Lancrin, 2008). This shift has been recognized by international bodies like the United Nations, which has identified a similar trend in developed countries (UNESCO, 2018). However, this issue is not confined to the developed world; it is also emerging in developing nations, where male students are increasingly underrepresented, leading to a widening gender gap in higher education. Malaysia stands as a prominent example of this trend, as highlighted by Wan (2018). Initially, Wan (2012) observed that gender disparity has become a significant concern within Malaysian public universities, particularly at the undergraduate level, where female enrollment consistently outpaces that of males, and this gender gap continues to expand over time. The Malaysian Ministry of Education used the term 'lost boys' to describe the rapid decline in male participation in higher education (Ministry of Education, 2013). A closer look at the statistics reveals that this gender reversal is pervasive across various university disciplines, with females outnumbering males. According to data published by the Ministry of

Education (2019) for the academic year 2017-18, public sector universities in Malaysia reported a 65.4 percent female participation rate compared to a 44.6 percent male participation rate. This gender shift is evident across nearly all academic fields, except in areas related to engineering, manufacturing, and construction, as noted by (Wan, 2018). Even traditionally male-dominated subjects like computer science, mathematics, and technology now have the most female students in public sector universities in Malaysia, a trend that raises concerns about the educational prospects of male students in the country (Tienxhi, 2017).

Ismail (2015) noticed that gender disparity in public institutions is transmitted through secondary education. Ministry of Education (2016) published education statistics for secondary schools at the STPM level (Sijil Tinggi Pelajaran Malaysia), stating 44.04 percent male participation compared to 55.96 percent female participation. This gap between male and female participation increased over time. In 2020, this gap was 32.74 percent and 68.26 percent between male and female students, respectively (Ministry of Education Malaysia, 2021). This states that male students are highly deprived of participation at the secondary school level in Malaysia. Zalizan M. Jelas et al. (2014) found that gender disparity exists in secondary education due to varying gender performance toward academic achievement, and this later transmits to higher education institutions in Malaysia. Thus, it is essential to study further the factors that affect

male participation/dropout at secondary school level education by analyzing ‘behavioral intentions’ to pursue higher studies.

2.3 Factors Influencing the Intention of Students to Pursue Higher Education

Gender equality has always been an international plan, especially in education. Sustainable Development Goal # 4, in this regard, emphasizes the importance of providing all eligible people with equitable access to education. Historically, females were considered deprived of education, but with time, this scenario has reversed for many countries worldwide (Poindexter et al., 2010; Van Bavel et al., 2018). Malaysia is one of the most prominent instances of gender disparity reversing, with males lagging by choosing to leave the education sector (Wan, 2012). Male students are observed to discontinue education after secondary school (Nagaraj et al., 2016); thus, this implied a study to assess the factors that affect the intention of male students to pursue higher education in Malaysia. In determining student intention, relatively less literature has been generated in recent years, particularly in the context of male students in the Malaysian education system. The studies preferred a general approach that considered gender by underlining the frequency of male and female participation. Meanwhile, these studies are limited to data representation and do not assess the factors influencing the students' behavioral intention toward higher education.

Wagner and Fard (2009) conducted the study for the first time and identified the factors that influence the intentions of Malaysian students. The study found that family, peers, education cost, and degree value significantly correlate with students' intention toward higher education.

In a more recent attempt, Loh et al. (2014) investigated the effects of individual, social, and financial factors on students' intent to seek higher education. The findings indicate a noteworthy positive association between students' attributes, including self-efficacy and motivation to pursue higher studies. The study also found a significant relationship between family influence, peer influence, and financial aid affecting the pursuit of higher studies.

Numerous additional factors come into play when considering the pursuit of higher education, especially within the context of the Malaysian education system. It is critical to identify these factors by further reviewing possible studies. In this perspective, Jelas and Dahan (2010) found that males were left behind academically because of their “academic achievement.” This study further proved that personal factors affect the academic participation of gender, as females are more towards sustained activities. Thus, it leads to higher academic achievement in the examination, whereas male students prefer the workforce (career aspiration) to pursue higher education. In continuation, Goolamally (2011) also studied the crucial factors in enhancing education pursuit among male students. This study identified that personal characteristics, especially “academic performance,” affect

the participation of male students at the secondary school level. Zalizan M. Jelas et al. (2014) discussed the two influential factors, the motivation and attitude of students, that affect their educational pursuits. This study emphasized analyzing the role of personal and motivational factors that tend to vary among male and female students and affect their pursuit of education in Malaysia. Nachiappan et al. (2012) conducted a comprehensive study to identify the factors that vary among male and female students at the school level. The identified factors involved attitude, motivation, parents, and financial considerations, which are the most critical factors that affect the pursuit of education. Later, Ismail (2015) also found multiple factors like academic achievement, motivation, and career preferences that vary among males and females, due to which males took an early exit right before entering higher education institutions. These studies suggest that gender disparity exists between males and females due to varying factors that affect students' intent to seek higher studies.

Concerning the factors affecting the intention of students pursuing higher education in Malaysia, a recent study has implied the intention model to explore this relationship. Md Talib et al. (2019) studied higher education intention factors. This study also examined the significant mediating role of gender and race. The study showed positive results regarding attitude and Perceived Behavior Control (PBC) on the intention of higher education. However, subjective norms showed no significant effect on the intention of higher education. In another recent study, Jalaluddin et al. (2019) found the impact of four important determinants of

students' inclination toward tertiary education in Malaysia. This study considered motivation, self-efficacy, financial considerations, family influence, and peer influence as factors that affect students' intention to pursue higher education. The detailed results of the study concluded that there were varying effects based on gender. In the case of male students, motivation, family influence, and financial considerations have a significant positive relationship. At the same time, self-efficacy and friend/peer influence have a weak positive association with students' intention towards higher education. These findings were significant at $p<0.05$. This study denotes the essence of motivation and family influence as primary factors that affect student intention, hence stating that motivation and family orientation concerning higher education raise a student's chances to pursue higher education. Haron et al. (2017) conducted a study to analyze the factors influencing students' intention to pursue higher education in private institutions in Malaysia. This study found similar factors in which social influences and financial assistance tend to have a significant positive relationship in shaping the student perception of pursuing higher education in Malaysia. The results revealed that a standardized regression weight of 0.310 with a standard error of 0.84, a critical ratio of 4.142, and a significance level of 0.001 supported the structural path for accepting the hypothesis. The study further posits the connotation of investigating the individual and social factors that gender perceives in this particular line of action to understand male and female intention priorities. All of the above studies have found that personal and social factors, including motivation, achievement, parent, peer influence, and career prospects, affect the

intention of students in higher education, while two studies have checked the moderating effect of gender and found it significant, demonstrating the difference between male and female intentions (Md Talib et al., 2019; Wagner & Fard, 2009).

The studies stated above are essential since they are from the perspective of Malaysian higher education institutions; nonetheless, other studies have discovered similar elements in different countries. For instance, Menon et al. (2016) studied factors that affect the intention of students to pursue higher education in Cyprus and found four essential determinants of intention toward higher education: economic, social, individual, and institutional. This study mainly discussed students' intention to pursue higher education in the context of career expectations as a return to education. Additionally, the relationships between gender, socioeconomic status and academic achievement have been studied. All these factors significantly affected students' intention towards post-secondary education based on gender. The study further elaborates that female students are more likely to pursue higher education because of top academic achievements.

Furthermore, economic factors are critical predictors influencing students' higher education choices, particularly socioeconomic status. Individuals from poor socioeconomic origins are less likely to continue college degrees (Wu & Bai, 2015). Rock (2010) investigated the influence of socioeconomic status, parental

education and occupation, gender, family dynamics, and academic self-efficacy on students' decision to seek higher studies in Ireland. The study concluded that socioeconomic status contributed most significantly to students' intention toward undergraduate studies. Walpole (2003) found that the student's socioeconomic status is critical in determining educational attainment. Kao et al. (2024) determined that gender, socioeconomic status, and academic achievement are crucial for deriving educational choices while transitioning from secondary to higher education. Similarly, Mitsopoulou & Pavlatou (2024), in a recent attempt, identified a significant role of socioeconomic factors. The finding highlights that family financial position, financial support, and career prospects are crucial indicators of intent to pursue higher studies, and these are strong predictors for male students.

The above review of studies suggests that three groups of significant factors potentially affect the intention of students to pursue higher education, and gender is an essential predictor of these factors. These factors include personal, social, and financial/economic determinants. The individual factors include motivation, attitude, academic achievement (Afzal & Rashid, 2018; Eidimtas & Juceviciene, 2014; K. Hillman, 2010; Jung & Lee, 2019; D. Liu & Morgan, 2018; Lovelace & Brickman, 2013), social factors include parents, peer influence (Brooks, 2003; Brusoski et al., 1992; Daguplo, 2017; Davis-Kean, 2005; Deka, 2016). Additionally, career prospects and socioeconomic status are significantly associated with students' intention for higher education (Husain & Sarkar, 2011;

Menon et al., 2017; Nausheen et al., 2019; Wan, 2018). In a most recent attempt, Md Talib et al. (2019) assessed the three proximal determinants of TPB to assess students' inclination towards post-secondary education in Malaysia. The study implies that attitude and perceived behavioral control significantly impact students' willingness to seek higher education in Malaysia. Additionally, this study states that attitude, subjective norms, and perceived behavioral controls influence students' intention to pursue postgraduate studies.

These findings suggest that the literature has sufficiently addressed the factors influencing students' intent to seek higher education based on gender. However, no study has essentially assessed the factors that affect "male students' intention" at the secondary education level in Malaysia. It requires evaluating the factors that potentially affect male students' intention towards higher studies, provided with a strong theoretical basis. Therefore, the current study aims to assess the personal, social, and economic factors that affect the intention of male students by keeping the determinants of TPB as part of the theoretical basis. Additionally, the presence of TPB determinants, including attitude, subjective norms, and perceived behavioral control, can play an influential part towards the usefulness and effectiveness of TPB that have already been assured by many studies in an educational context (Davis et al., 2002; Knauder & Koschmieder, 2019). Besides, TPB has also demonstrated its viability in measuring behavioral intention (Cooper et al., 2016). In the domain of education, TPB (Ajzen, 1991) has proven its effectiveness through numerous empirical investigations (Cheng &

Chu, 2014; Lortie & Castogiovanni, 2015; Tonglet et al., 2004). While these studies have underscored the substantial role of the TPB in comprehending students' educational intentions, a gap persists within the literature. This gap revolves around assessing the relationship between personal, social, and economic factors and the proximal determinants of the TPB framework. In this background, the current study aims to provide insight into the path of "male students' intention" to pursue higher education, particularly in the Malaysian context. The present study endeavors to bridge this gap by investigating the intentions of male students and assessing the relationship between a set of identified factors, discussed below:

1.Personal Factors
- Motivation
- Academic Achievement

2.Social Factors
- Parent influence
- Peer influence

3.Economic Factors
- Career Expectations
- Socioeconomic Status

4.Theoretical Foundation (determinants of TPB)
- Behavioral Intention (TPB)
- Attitude
- Subjective Norms
- Perceived Behavior Control (PBC)

2.4 Personal Factors

2.4.1 Motivation

Motivation is fundamental to human behavior (Kian et al., 2014). In this context, changing behavior can be altered by attributing motivation, thus making it to the list of diverse variables. It embraces multi-dimensional explanations. Motivation is a concept that has emerged through various stages. It is thought to have multi-dimensional definitions based on different areas of study. Initially, Kleinginna and Kleinginna (1981) combined definitions of motivation that emerged over time. This study categorized motivation into specific classes, including phenomenological and psychological functional processes, confined the scope of motivation, and emphasized the comprehensive nature of motivation for a convincing description of motivation. Eventually, the findings conclude that motivation is an essential concept driven by subject matter and measured as an intensity with which behavior or goal is achieved.

Bandura (1997) explained motivation as a critical part of self-efficacy and stated it as a "set of beliefs drives one's motivation that directs the way towards the behavior." In a recent study, Cook and Artino (2016) discussed the theoretical evolution of motivation. There are five possible academic contributions, i.e., expected value, attribution, social cognitive, goal-oriented, and self-determined towards defining motivation. The definition based on these theories is 'the process

whereby goal-directed activities are instigated and sustained.' Due to the diversity of motivation, educators and researchers were advised to carefully determine suitable attributions according to respective domains while measuring motivation (Cook & Artino, 2016). This consideration is essential to ensure accurate measurement of motivation across specific fields. It underscores the need for a subtle approach when analyzing motivation, ensuring alignment with the distinct context within which it operates. In this prospect, educational research needs to determine the proper behavior or goal being studied, and it will help in considering the accurate set of motivational attributes (Koch et al., 2015).

From an educational viewpoint, motivation can be defined as a desire to achieve a scholarly attitude or goal; it simulates the set of purposive actions for achieving future academic goals (Schunk, 2000). It catalyzes starting, executing, and leading toward the educational objective (Gopalan et al., 2017). Özen (2017) stated that there are three critical determinants of academic motivation. First, it triggers the behavior; second, it guides the action; and third, it is the internal state that initiates the behavior; thus, it is an urge to satisfy the need or requirement referred to as motivation. These terms explain that educational motive is determined as internal desire, emotion, or aspiration while acting as drivers toward a confident educational attitude. Gopalan et al. (2017) stated that students' willpower is linked to academic activities, in which students' level of motivation reflects academic engagements, thus reflecting their attitude toward education.

Highly motivated students tend to have high academic commitments without requiring any rewards.

In contrast, low-motivated students need rewards to engage in educational activities, thus reflecting a positive attitude toward studies. Lin (2012) termed motivation as one's intrinsic aspiration while acquiring information and learning. Awan et al. (2011) also stated that motivation is an internal desire that encourages positively towards an attitude. Ertem (2006) explained motivation as an individual's state that uncovers perspective and directs this attitude toward specific educational goals.

Students' motivation does not persist in isolation; instead, it is susceptible to a combination of multiple factors. These factors include family, institutions, peers, colleagues, interaction with teacher and learning experience, and internal beliefs extracted through interaction and experience (Halawah, 2011; Ullah et al., 2013; Yilmaz et al., 2017). All these factors are instinctual motivations that influence the attitude of achieving any goal. This approach to goal accomplishment stimulates purposive actions for achieving future educational goals (Berliner & Calfee, 2013; Calfee & Berliner, 1996; Koch et al., 2015). It also denotes initiating and sustaining goal-oriented actions (Menon et al., 2017). From this perspective, motivation is crucial in determining students' attitudes toward institutional engagements. Some researchers conclude that motivation is an essential factor leading to the pathway toward the right students' attitude-

enhancing academic achievement (Baranek, 1996; Özen, 2017; Schrodt et al., 2000), student learning (Amrein & Berliner, 2003) and student performance (Bodkyn & Stevens, 2015; McDermott et al., 2001). Studies have demonstrated a notable correlation between heightened motivation and the attitudinal progression of students toward achieving their goals (Wibrowski et al., 2017). Similarly, Darwish (2016) asserts a significant association between motivation and performance, which stems from students' appropriate attitudes toward their academic needs.

Motivated students can achieve their goals and meet their needs by adopting a positive outlook. Similar is the case with student intention, as Yilmaz et al. (2017) have shown that motivation has a significant impact on the attitude of students. Moè et al. (2009) confirmed that motivation substantially affects the mindset that leads towards the student's academic achievement at school. In the same way, motivation has been found to have a robust significant relationship with attitude leading towards academic accomplishment and academic accomplishment is central to the development of educational values and students with higher educational values tend to have higher level of education (Dagnew, 2017; Harackiewicz & Priniski, 2018).

These findings from the literature review demonstrate the association between motivation and students' attitudes toward higher education. Peak (1955) discussed the strong association between attitude and motivation by writing it as

“these two variables are strongly interrelated and highly interdependent.” Van Calster et al. (1987) discussed the premise of motivation and attitude as being strongly interrelated in determining the performance of male students in school. The study also demonstrated the usefulness of motivation toward a productive attitude of boys, translating future personal preferences at the school level. In a study, Demetriou and Schmitz-Sciborski (2011) analyzed the theoretical importance of motivation in explaining the attitude of students (via attribution theory), contributing to the retention of college students for pursuing higher education. Later, Eidimtas and Juceviciene (2014) recommended using motivational factors to create a positive attitude towards higher education in school leavers' decisions.

Similarly, Szász and Bernath (2016) showed that motivation is associated with students' attitudes to pursue higher education. Tasgin and Coskun (2018) studied the relationship between motivation and attitude and found a positive correlation between the two variables for enhancing educational learning. Lishinski and Yadav (2019) discussed the association between motivation and attitude in students. Loh et al. (2014) discovered a noteworthy correlation linking motivation and attitude to students' willingness to seek higher education in Malaysia. While plenty of research exists on motivational beliefs and educational achievement, there is a lack of studies focusing on the connection between motivation and academic attitude. At the same time, there is no study specifically about male students’ intention towards higher education. In the respective context,

this study assumes to identify the relationship between the motivation and attitude of male students towards pursuing higher education at the secondary education level in Malaysia.

Hypothesis 1: There is a positive relationship between motivation and the attitude of secondary school male students toward higher education

2.4.2 Academic Performance

Academic performance pertains to the accomplishments or success of students in their preceding educational activities. Spinath (2012) defined academic achievement as performance output in intellectual domains taught at school, college, or university. The academic performance of individuals matters a lot when deciding their prosperity and future behavior (Kassarnig et al., 2018). This is true because academic achievement, which involves grades and scholastic achievement, is used to assess the individual's standing and gauge eligibility for a particular task, e.g., a job and future education (Spinath, 2012). In this view, academic performance can be defined as outcome measure that demonstrates the degree of accomplishment towards a particular goal. In an educational environment, this goal should focus on activities taught in an instructional setting. Academic performance exhibits multiple educational objectives like attitude (Liddell & Davidson, 2004), motivation (Usán Supervía et al., 2019), educational enactment (Dotson, 2016), and learning (Gbollie & Keamu, 2017). These findings

show that academic performance demonstrates the students' attitudinal behavior by settling specific educational indicators, especially student engagement and perceived competence (Akey, 2006). In a study, Casillas et al. (2012) found that academic performance demonstrates certain psychological factors like attitude, ultimately enhancing the competence of the students and leading to higher-achieving educational behavior.

Academic performance is essential in shaping the educational mindset when pursuing higher education since it reflects the talents and knowledge a student has gained through earlier educational credentials (Maziah Wan Ab Razak et al., 2019). Bakar et al. (2010) noted a comparable pattern when examining the correlation among academic performance, motivation, and the educational attitude of students in Malaysia. Moreover, Valli Jayanthi et al. (2014) similarly identified results demonstrating the substantial influence of gender on academic performance, showcasing variations for both male and female students. Some other studies also found that gender significantly affects academic performance both in school and higher education, whereby academic performance between males and females varies, thus representing different results for educational attitude in both genders (Dayioğlu & Türüt-Aşik, 2007; Ghazvini & Khajehpour, 2011; Hdii & Fagroud, 2018; Rouse & Austin, 2002). Wan (2018) observed the same pattern of academic achievement among males and females, particularly in Malaysian undergraduate students. Jelas and Dahan (2010) and Zalizan M. Jelas et al. (2014) explored the academic performance of boys and girls in school

examinations in Malaysia for the years 2009 and 2014, respectively. These studies found a significant difference between the academic performance of male and female students at school examinations. Female students were observed to outperform male students, thus translating their higher transition to higher education. Several studies have highlighted the consistent correlation between gender and academic performance concerning students' higher education intentions (Afzal & Rashid, 2018; Darwish, 2016; Menon, 2010). Studies have also found that males face disadvantages in academic performance compared to females, leading to an increasing presence of females in higher education institutions (Wan, 2018). Ismail (2015) similarly emphasized the significant impact of academic accomplishments on students' educational qualifications, particularly noting the enhanced academic performance among females.

Given that many universities, particularly public sector institutions, adhere to a meritocratic model for student admissions, previous academic achievements hold substantial importance in shaping academic attitudes, consequently reflecting students' intentions toward higher education. The findings demonstrate that an individual’s academic accomplishment is an essential factor when studying the decision process of students to seek higher studies. In this context, academic achievement can be considered a critical factor for assessing the intent of male students to pursue higher studies.

Hypothesis 2: There is a relationship between academic performance and the attitude of secondary school male students towards higher education.

2.5 Social Factors

2.5.1 Parent Influence

Parents are an elementary deriving strength for students to perform in school (W.-B. Chen & Gregory, 2009). Parents are considered a purposeful part of students' experience in determining future education performance and goals (Fan & Williams, 2010) as a critical consideration in social sciences. Parents assume a substantial role within the familial context, exerting a noteworthy influence on students' behavior. The academic realm recognizes parents as crucial contributors in shaping students' educational accomplishments and outcomes. Notably, the extent and nature of parental influence entail diverse interpretations. Conventionally, parental influence encompasses their engagement in students' academic endeavors, including teacher communication, homework assistance, educational initiatives, and parent-teacher meetings. This multifaceted notion of parental influence is highly regarded among educational researchers, who acknowledge its impact on students' academic journeys and achievements (W.-B. Chen & Gregory, 2009; Fan & Williams, 2010; Sewell & Shah, 1968). López et al. (2001) defined parental influence as supporting students towards their academic participation for future performance and achievements. Davis-Kean

(2005) explained that parent influence is involvement and engagement in the educational behavior determination of their children as good-performing students. Similarly, Ntekane (2018) stated parental influence tends to have significant implications on the educational behavior of students when they engage directly in educational activities.

The engagement of parents yields distinct effects on students' behavior, encompassing a range of impacts. Notably, a paramount factor that significantly shapes students' choices about higher education is the influence of parents (Bank et al., 1990). Within this context, Eidimtas and Juceviciene (2014) assert that parents are integral family members in students' decision-making, particularly concerning educational conduct. This underscores parents' profound influence in guiding students' perspectives and preferences. It is also considered that parents are the difference makers in individuals' behavior in an educational environment. Parents emerge as catalysts that distinctly mould individuals' behavior in the educational landscape, ultimately making a discernible difference. Their role extends beyond mere involvement to become a decisive factor that significantly shapes students' educational inclinations and actions. This dynamic underscores parents' substantial impact within the academic realm, substantiating their significance as critical contributors to students' behavioral patterns and choices (Jung & Lee, 2019).

Horn et al. (1998) proved that parents strongly influence students' post-graduate education, even stronger than students' socioeconomic status and personal factors. Philippis and Rossi (2019) have found similar results, stating that parents' influence has a critical role in the higher educational attainment of students; it is even more influential than other factors like socioeconomic status. Parents from high-scoring PISA countries tend to influence their children's future educational attainment significantly. Lara and Saracostti (2019) found a strong association between the role of parents' influence and the educational completion of students in Chile. The study also referred to the significance of parental influence that leads to better academic achievement of their children thus making them pursue higher studies more appropriately.

Additionally, Eccles (2005) studied the impact of parents' education on students' attainment and found a significant relationship between these two variables. The study also found a substantial effect of parents' involvement and occupation on students' educational achievement. Topor et al. (2010) conducted a multi-mediational analysis of parents' influence, the teacher's role, and the student's educational attainment. The study found a significantly illustrative role of parents' influence on the student's academic achievement; this relationship was even more influential than students' intelligence, showing a substantial determination of parents' impact on their children's education. Parental influence encompasses attributes such as the extent of parental education, which stands as the primary determinant shaping a student's educational goals (Häkkinen et al.,

2003; Selvam, 2013; Sewell & Shah, 1968). However, parental support, academic approach, and occupation are all thought to be closely related to parental influence (Nafis et al., 2020; Rughoobur-Seetah, 2019).

Parental influence significantly impacts children's decisions in an educational setting. Research shows a strong association between educational choices and parental influence (Castro et al., 2016; Jung and Lee, 2019; Menon, 2010; Rughoobur-Seetah, 2019). In this context, Brusoski et al. (1992) conducted a study on parents' encouragement towards pursuing a college education and showed a difference between the opinions of male and female students. The findings showed that the majority of indicators about parent influence remain the same for both males and females, who influence their decision towards higher education. Schnabel et al. (2002) conducted a comparative study between students in the US and Germany for educational choices determined by family influence. In both countries, the result was found to impact family influence significantly. In a review study, Eidimtas and Juceviciene (2014) found the family to be an influential factor affecting students' decision to enroll in higher education. Studies have shown the significance of parents' influence because students spend most of their time with their parents at an early age, and parents are an integral part of the student's decision-making process. Al-Barwani et al. (2012) showed in a study that parents do exert an influential impact in higher education; they considered this role as their duty and believed it to be as vital as children's teacher role in

higher education. This study also found the students mostly support parents' views as well.

Furthermore, Husain and Sarkar (2011) regarded parental support as pivotal in fostering children's pursuit of higher education, encompassing encouragement, financial savings, and strategic planning for their tertiary education qualifications. The family's anticipation of their children pursuing tertiary education motivates them to acquire suitable educational qualifications; it encourages them to obtain an appropriate education qualification. Hence, a student's decision to pursue higher education is greatly influenced by the support and encouragement of their family or parents (Koe et al., 2012). Research in behavioral economics has demonstrated a strong relationship between parental influence and parents' decisions about their children's education (Koch et al., 2015). Students who pursue university education frequently do so to satisfy their parents' expectations. Loh et al. (2014) illustrated a significant association between parents' influence and the perceived societal expectations among students, which influences their choice to pursue higher education in Malaysia. Students sense a responsibility to enhance their family's welfare, reputation, or social standing by enrolling in tertiary education institutions.

Within the TPB framework, the behavior is intricately linked to social influence, a concept postulated by Ajzen (2002). This explains that social influence tends to assess the intention and parents' influence in primary sources of

social interaction for students. Specifically, in the context of making educational decisions, the most potent source of social influence stems from parents, who are a formidable driving force within this domain.

The crux of the matter lies in the undeniable influence of parental involvement, asserting itself as a decisive factor shaping subjective norms. As substantiated by research conducted by Pryor & Pryor (2009), social norms predominantly find their roots in parental influence. This pivotal insight underscores parents' crucial role in determining the social context that guides individuals' intentions and behaviors. In this context, the current study strongly focuses on parental influence as an essential factor influencing male students' intentions to pursue higher education and derives the following hypothesis.

Hypothesis 3: There is a positive relationship between parent influence and the intention of secondary school male students to pursue higher education.

2.5.2 Peer Influence

Peers are essential to one's life and paradoxically influence each other's educational decisions (Rosenqvist, 2018b). Reference Group Theory (RGT) is the most significant advocate of peer influence on one's life and related decisions (M. A. Williams, 1970). It refers to the group that acts as a frame of reference to evaluate beliefs, abilities, and behavior (Kuipers, 2010). Later, Kelley (1952)

explained that according to reference group theory, peers could influence educational decisions significantly, and two elements play an influential role in such a decision, i.e., “conformity” and “social contract,” these are interconnected and occur from the same set of peers. Conformity refers to the normative notion, and it is critical while discoursing information behavior (Dawson & Chatman, 2001). It is also denoted as ‘referent informational influence’ that conforms to the positive expectations of others and individuals compelled to do so for multiple reasons: to get social approval, avoid disapproval, and achieve specific goals (Matelski & Hogg, 2015). The normative notion is also called conformity, with which students attain perceived value by adhering to the educational choices of peers (Rosenqvist, 2018b). In the case of an academic environment, students are more likely to imitate their peers; in this way, they can generate a sense of belonging for educational decisions by keeping them away from feelings of isolation (Baumeister & Leary, 1995).

Social contrast refers to the second component of Reference Group Theory, denoting a similar function. It states that the reference group, which emerged from the comparative process, influences students’ decisions regarding education and aspirations. In this function, student choices result from comparative achievement rather than absolute achievement in an educational environment, thus directly reciprocating the decisions and behavior of students (Rosenqvist, 2018b).

The normative notion and social contrast both affect the educational behavior of the students, whereas some studies have found normative influence, as an essential determinant of peers, has a stronger significant relationship with students' behavior (Bank et al., 1990; Harris, 1998; Rosenqvist, 2018a).

While peers strongly influence different educational parameters, they do strongly impact educational decisions involving a decision to pursue further education. Thomas and Webber (2001) found that deciding to continue higher education is crucial for students, and peers directly influence it. Gender differences are interestingly shown by this interaction, with boys being more influenced by their friends than girls. However, when making such essential judgments, girls tend to depend more heavily on their abilities. In a recent study, Rosenqvist (2018a) comprehensively analyzed the impact of peers' influence on students' decisions; a rich data set was used to follow-up students in different transition times about their education decisions and careers. This study considered three dimensions of peer influence in secondary school. The study found that peers influence students in three facets: decisions about education, gender, and typical and atypical education. Secondly, peer influence affects the decision to leave or be ambitious about further education, especially at the secondary level. The study also finds that a chance of applying to tertiary education increases with more significant academic achievement, and this relationship is mediated by peers' academic performance, especially in terms of average grade achievement, thus showing the influence of peers as forming normative beliefs towards

educational intention or behavior. In the Malaysian education system, Wagner and Fard (2009) studied the effect of peers on intention to pursue higher education, and it was ranked as the third most significant factor by the students. Similarly, Loh et al. (2014) found a similar result whereby peers substantially impact the forming of a normative belief, thus affecting the intention to pursue higher education while mediated by gender.

The TPB ascends to the reference group theory (Terry & Hogg, 1999), which considers peers and family as essential considerations of subjective norms that constitute an individual's behavior (Ajzen, 1991). In this context, peer influence is the most vital determinant of subjective norms (Ajzen, 1991) that reciprocate individual behavioral decision-making, especially from the sociological perspective (Andrew & Flashman, 2017). In an early study, Thomas and Webber (2001) found that peers are a critical factor in forming one's normative norms, thus reflecting upon the decision for higher education, and it significantly impacts student decisions. Peer influence significantly impacts the subjective norms that shape students' social, emotional, and educational decision-making processes (Bankole Adeyemi, 2019). Peers wield substantial influence in moulding individuals' choices, particularly during their formative years, influencing decisions about the means, educational attainment, and academic performance based on these choices (Rughoobur-Seetah, 2019). Numerous other studies have shown that peer influence significantly impacts setting subjective norms surrounding educational behaviors such as academic performance,

attainment level, and future decisions among secondary school students (Menon, 2010; Sánchez & Singh, 2018).

Conclusively, the study establishes that peer influence also shapes the determination to continue educational pursuits with ambition or to opt for alternative paths. This influence holds particular weight during the secondary education phase, underscoring its relevance at this critical juncture.

The literature review suggests that peers' impact on education is not confined to a single facet; instead, it extends its sway over the sphere of educational decision-making, especially concerning the choice to pursue higher education. The intricate interplay between peer dynamics, individual capabilities, and gender nuances emphasizes the multifaceted nature of this influence. These insights enrich the research landscape, highlighting the complex interactions that shape students' educational trajectories.

It can be implicit that peers influence students' decision-making in higher education by forming intentions; thus, this study considers peer influence as an essential determinant of male students' intention toward higher education; this study considers the following hypothesis:

Hypothesis 4: There is a positive relationship between peer influence and the intention of secondary school male students to pursue higher education.

2.6 Economic Factors

2.6.1 Career Outcome Expectancy

Career outcome expectancy refers to the expectations of individuals for future work. In an educational context, "career outcome expectancy" refers to a student's anticipation or belief regarding the potential results or outcomes of their academic endeavors in their future career (Guo et al., 2015). It encompasses the expected benefits, achievements, and opportunities that individuals perceive will be realized in their professional lives as a direct consequence of their educational achievements and qualifications (Plante et al., 2013). COE is an important psychological factor influencing students' decisions and inspiring them to achieve their educational goals as they assess how their educational investment will impact their future career prospects and success (Watt et al., 2012). Students' pursuit of higher education is driven by the desire to ensure future employment opportunities (Tomlinson, 2008). This emphasizes the importance of job possibilities for students. Students view career possibilities as a crucial facilitator in their decision-making process while considering higher education decisions (W. Donald et al., 2018). Some studies have referred to career expectations as returns to the education the student will expect to earn after getting a higher education (Menon et al., 2017; Rughoobur-Seetah, 2019).

Students consider career prospects an important count for assertiveness toward higher education decisions. Luo et al. (2019) determined that student motivation, attitude, and career aspiration tend to have a positive correlation among each factor, thus reflecting on their educational goals. As discussed earlier, career aspiration refers to the prospect of student consciousness about financial returns assessed. Moreover, these perceived financial returns may vary among male and female students (Dicke et al., 2019). As previously discussed, professional aspiration refers to the likelihood of student awareness of financial returns appraised.

Furthermore, these perceived financial returns may differ between male and female students. This is because professional opportunities differ between genders, and different careers pay different amounts of money. Correll (2001) demonstrated other career preferences between males and females. These preferences vary due to multiple factors shaping students' perceptions, leading males to have new and highly-paid jobs as they are more responsible for earning their families (Marjoribanks, 2003). World Bank (2012) also demonstrated the difference in career prospects of male and female students. It concluded that males prefer skillful, technical, and highly-paid jobs more than females. Studies have found that gender significantly affects career prestige (K. A. S. Howard et al., 2011) and occupational aspirations (Bressler & Wendell, 1980; Francis, 2002; Garrison, 1979; Watts et al., 2015). Multiple factors manipulate these career expectancy outcomes (COE), and one of the critical factors is male earning

preferences that tend to be higher in comparison to females, thus early job preferences (Staniec, 2004). Male students assess their decisions based on future earnings or career expectations (Kang et al., 2019; Nausheen et al., 2019; Rughoobur-Seetah, 2019; Wijewardena, 2016).

Hackett and Betz (1995) have suggested a significant relationship between career prospects and the educational self-efficacy of the students. Tienxhi (2017) discussed the importance of future earnings and early career expectations influenced by gender, which tends to affect the self-efficacy/self-concept of students from a Malaysian education perspective. The study discussed career expectations as a pivotal element influencing higher education decisions, particularly concerning gender disparities. The study also highlighted that males tend to inclinate towards early career decision-making as a means of fostering independence, whereas females demonstrate distinct behavior in this domain. Moreover, the HSBC survey revealed that nine out of ten Malaysian students prefer working while concurrently pursuing higher education (Talip et al., 2021).

Furthermore, Rashid et al. (2005) have demonstrated that students with work experience are more inclined to career orientation, especially for male students, as they rank work experience higher than females.

Similarly, Mansor and Tan (2009) measured career readiness among Malaysian students, showing that male students showed higher willingness toward

a career than female students. These findings illustrated a higher orientation of male students' career expectations, as they prefer to live earning at an earlier age than female students, thus affecting their efficacy towards higher education.

In various research studies, career expectations have been equated to the benefits or gains students foresee obtaining after completing higher education (Flores et al., 2008). This refers to what individuals expect to earn or achieve due to their educational endeavors. This notion encompasses financial rewards and other advantages that individuals perceive will come their way due to their investment in higher education (Tzu-Ling, 2019). Furthermore, this assessment plays a pivotal role in retention and persistence. Students with a clear and positive COE are more likely to persist in their educational journeys, resulting in higher retention rates and lower dropout rates (Csók et al., 2019; Reardon et al., 2015). Hence, these expectations play a crucial role in shaping students' decisions to pursue further education as they consider the potential outcomes and rewards that await them in their future careers. Understanding the significance of career expectations provides valuable insights into the factors that influence individuals' choices and inspirations when pursuing higher education. Furthermore, examining the connection between COE and students' intentions is vital for optimizing educational goals. This process empowers students to make well-informed decisions, enriches their academic journeys, and catalyzes individual attainment by aspiring them to pursue higher education (Schnettler et al., 2020).

The above literature review shows that COE is associated with students' decisions in higher education. In line with these literature findings, this study aims to find the relationship between career prospects and male students intending to seek higher studies in Malaysia.

Hypothesis 5: There is a positive relationship between COE and secondary school male students' intention to pursue higher education.

2.6.2 Socio-Economic Status

In academic literature, socioeconomic status pertains to an individual's or a family's socioeconomic standing within a given society (Oakes & Andrade, 2017). It is typically assessed through various factors, including income, educational attainment, occupation, and social standing. Socioeconomic status is a critical indicator of financial well-being and societal position, offering insights into relative economic advantages or disadvantages (Baker, 2014).

Within an educational context, socioeconomic status is the combined measurement of an individual's economic and social standing primarily associated with their parents. It is a composite measure of an individual's sociological and financial standing (Winters-Miner et al., 2015). Baker (2014) further refines this concept, characterizing socioeconomic status as a gauge of an individual's collective economic and social status.

Socioeconomic status includes multiple constituents that implicate income, financial securities, and, more importantly, educational attainment (APA, 2014). Its definition involves numerous indicators of economic and sociological background; it reflects diverse calculation mechanisms for measuring it. Liberatos et al. (1988) discussed the conceptual relevance of socioeconomic status, which makes it difficult to have a single scale. It is a complex assessment involving diverse and multiple ways of calculation, including the highest level of education, parents' education, income, wealth, and other related variables (Winters-Miner et al., 2015). The most critical aspect of socioeconomic status is education, which has a secure link (APA, 2014; Azhar et al., 2014; White, 1982; Marks et al., 2006). Studies have suggested that socioeconomic status can be assessed through multiple criteria, including family income, family size, family structure, and parental occupation while analyzing it with educational objectives (Darwish, 2016; Sánchez & Singh, 2018; Thomson, 2018)

In an educational context, socioeconomic status tends to influence the behavioral attributes of the students. Socioeconomic status is widely recognized as a pivotal determinant in shaping students' pursuit of higher education (Crosnoe & Muller, 2014). It is evident from research that socioeconomic background affects the behavior of a student in many ways, especially educational achievement and performance (Thomson, 2018), as the American Psychological Association (2014) showed that students from low backgrounds tend to develop academic skills slower in comparison to students from higher socioeconomic

status. Anon (2014) studied the impact of socioeconomic status on the educational attributes of students. This study found that socioeconomic status demonstrates changes in students' academic attainment, whereas students of higher status tend to exhibit greater educational attainment. Bradley and Corwyn (2002) proved that socioeconomic status significantly reflects the well-being of children, thus affecting their development.

Regarding the financial implications associated with students' socioeconomic backgrounds, Castro et al. (2016) observed a notable influence on educational aspirations. Likewise, Sánchez and Singh (2018) reported comparable findings regarding the correlation between socioeconomic status and academic accomplishments. In this context, the research has implicitly shown that socioeconomic status can affect a student's access to educational opportunities, the quality of their educational experiences, and educational outcomes. Students from higher socioeconomic backgrounds often have greater access to resources such as private tutoring, advanced coursework, and extracurricular activities that can enhance their academic preparation and college readiness (Broer et al., 2019).

Darwish (2016) & Menon et al. (2017) investigated the influence of socioeconomic status and revealed a substantial correlation. They found that socioeconomic status significantly relates to students' attitudes towards striving for higher educational accomplishments, indicating that students who achieve better academically are more inclined to accomplish higher education. Moreover,

Thomson (2018) further supported these findings, demonstrating that individuals from underprivileged or economically disadvantaged backgrounds are less likely to excel in higher education and are less inclined to seek further educational opportunities. Zainal et al. (2009) studied the impact of parents' socioeconomic status on higher education attainment in Malaysia. This study showed that rising competition among students makes it difficult for all students to attend public sector universities. A positive correlation was found between socioeconomic status and parents' awareness of saving for their children, showing a greater tendency to give higher education to their children, especially boys. Misran et al. (2012) studied the impact of socioeconomic status and awareness of higher education in Malaysia. The study results showed that low-SES students were more determined to pursue higher education than high-SES students. Noorfauziah (2014) conducted an analysis targeting school students in Malaysia to study the impact of socioeconomic status on academic performance, highlighting the positive relationship between these two variables. In a more recent study, Imran et al. (2017) made the role of socioeconomic status and students' educational attainment evident for Malaysian students. The study showed a significant positive effect of parent socioeconomic status on academic attainment. Rodriguez-Hernández et al. (2020) conducted a review study highlighting that higher socioeconomic status is critical in educational pathways and tends to improve students' academic achievement, thus raising their chances of entering higher education. The above studies conclude that socioeconomic status positively affects academic achievement, performance, and higher education.

Socioeconomic status also holds theoretical significance in education studies. The TPB (Ajzen, 1991) tends to explain the relationship of socioeconomic status as an essential consideration, particularly in students' behavioral intentions. Ajzen (1991), while discussing students' preferences or behavior, explained that resources and opportunities are critically important in determining the control belief as they imitate essential control beliefs.

Indeed, extensive research has consistently demonstrated the profound influence of socioeconomic status (SES) on various dimensions of a student's educational journey. Students from higher socioeconomic backgrounds often have greater access to resources such as private tutoring, advanced coursework, and extracurricular activities that can enhance their academic preparation and university readiness (Micalizzi et al., 2019; S. Wolf & McCoy, 2019).

Furthermore, socioeconomic status can shape a student's educational aspirations and expectations. It can influence whether a student sees higher education as a viable and attainable goal or a distant and unrealistic dream. Understanding the diverse nature of socioeconomic status is crucial to promoting educational equity and access for all students (Trawalter et al., 2021).

In this context, it is crucial to find the relationship between socioeconomic status and the intention of male students towards higher education. Furthermore, the current study aims to develop an understanding of socioeconomic status and

its impact on the control beliefs of male students while gauging intention towards higher education in Malaysia.

Hypothesis 6: Higher socioeconomic status tends to have a positive relationship with the intention of secondary school male students to pursue higher education.

2.7 Theoretical Foundation

2.7.1 Behavioral Intention

This study aims to explore the factors that affect the intention of male students in the Malaysian education system. In this aspect, "intention" is an essential consideration as a concept. Philosophically, intention is considered a complex phenomenon, as it has been discussed in three significant ways. These three pretexts include an intention for the future, an intention to act, and intentional action (Setiya, 2018). Deliberate action is the most common phenomenon in literature, especially when gauging any specific outcome or goal. Scheer (2004) discussed the reason for using intentional action, which is the fact that it is "intention as doing" and referred to as "course of action" that defines the intention towards the specific goals of any subject matter. The focus of this approach is to look for the "intention with which something is done" and it involves adoption of advancement towards achievement for purposeful triumph.

This concept of “intention as doing” is referred to as behavioral intention, as it also determines the pathway toward any particular behavior. Primarily, the link between intention and behavior was determined by the EVT (Porter & Lawler, 1968). The EVT model focuses predominantly on the individual's beliefs; it aims at the relationship between belief and behavior by focusing on a set of beliefs that make individuals choose specific behaviors. Later in the 1970s, the idea of EVT was carried forward by Ajzen and Fishbein (1975), who determined that behavior is an essential antecedent of intention (Fishbein & Ajzen, 1975). This theory was named the Theory of Reasoned Action (TRA) and was based on the rational approach. TRA considered individuals rational thinkers who logically decided their behavior, which translated from a “planned course of action” called behavioral intention. In TRA, the intention is defined as “the amount of determination and willingness with which individual is intended to perform the behavior and further to that behavioral intention (BI) is a person’s subjective probability of performing a behavior” (Fishbein & Ajzen, 1975). TRA posited that an individual's intention to engage in a specific behavior was the primary predictor of whether they would perform that behavior. Additionally, TRA hypothesized that behavioral intention depends on two factors, i.e., attitude and subjective norms. Positive attitude and strong support are given by social circles to translate an individual’s strength of intention.

These definitions are widely used to assess the behavioral intention of individuals. It has been used to measure educational purposes, which can also be

seen as behavioral intention (Craven & Dillon, 2013). Before deciding the quintessence of TPB as a crucial measure of educational intent, it is essential to understand the epistemological evolution of TRA and its ascendant intention theories.

Initially, TRA explained behavioral intention as a subjective probability (Fishbein & Ajzen, 1975); Warshaw and Davis critically explained this by taking intention as " the degree to which a person has formulated concessions to perform or not to perform specific future behavior," and the behavioral intention was characterized by behavioral expectation (Warshaw & Davis, 1985). While TRA provided valuable insights into understanding behavior, it had limitations in explaining behaviors over which individuals might not have complete control or their intentions might not be the sole determining factor. Recognizing these limitations, Fishbein and Ajzen later expanded the framework to create the TPB in 1985 (Ajzen, 1985). TPB facilitated the understanding by interpreting the approach towards behavioral intention. This concept was clarified by explaining the proportionate relationship between behavioral intention and perceived behavioral control toward behavioral expectations, and it was also rationalized (Ajzen, 1991).

The TPB proved to be a transparent approach for gauging intention and behavior. Later on, TPB was tested in numerous studies to find behavioral intention and demonstrated its significance in the psychological study of behavior.

The primary aim of TPB was to explain the motivational and informational influences forming the pathway toward behavioral intention and, additionally, the impact of behavioral intention towards behavior. The theory of Reasoned (TRA) Action posits the essential role of attitude toward behavioral intention, whereas the TPB considers the active role of perceived behavioral control toward the intention. TPB recognized that while intention and subjective norms played critical roles in shaping behavior, the ability to perform a behavior was a key determinant. If an individual intended to engage in a conduct and perceived that they had control over it, they were more likely to act on their intention. However, if they faced significant barriers or lacked the necessary skills, their behavior might not align with their intention. Therefore, TPB provided a more comprehensive framework for assessing and predicting behavior by accounting for the influence of internal and external factors. Indeed, research has proven the predictive and explanatory support for TPB, and it has been widely applied in various fields to understand a broad range of human behaviors, including those related to education, health, and decision-making (Armitage & Conner, 2001; Craven & Dillon, 2013).

The strong evidence of the authenticity of TPB also posits the importance of extension to this theory. This extension is subject to recognizing the uncertain role of factors that affect behavioral extension. When goals and plans are in an educational setting, there is the likelihood that these plans are affected by multiple background variables. In such cases, the future extension of TPB can be

considered. This conceptual operational extension to TPB is supposed to be transformed, and it will improve the predictive validity of these theories (Craven & Dillon, 2013). In this course of action, significant accretion is proposed by Gollwitzer (1990), suggesting the inclusion of one additional phase as constituting background variables that render the possible determinants of TPB. In another study by Heckhausen and Heckhausen (2008), it was proposed that additional phases could be an authentic technique to get valid results from TPB under unclear courses of goals and actions. This could lead to adding factors that contribute towards the proximal determinant of TPB, thus reflecting behavioral intention.

Having discussed the inclusion of background factors in TPB, it is critically important to decide the viability of TPB while studying educational intention as part of behavioral intention. The TPB is not helpful under circumstances where "a person's control strongly determines behaviors." Contrary to this, TPB is used where a person's behavior is not under one's control while it is determined by other critical factors (Ajzen & Kruglanski, 2019). The TPB takes behavior as a direct antecedent of intention. The intention is explained as "capturing the motivational factors that influence the behavior, and these include an indicator of how hard people are willing to exert efforts to perform a behavior" (Ajzen, 1991). The TPB also refers to the influence of several external factors; as Ajzen (2011) has indicated, the idea of planned behavior also refers to the effect of numerous external elements, including personal, social, and cultural

aspects. It is further illustrated that external factors are primarily mediated by proximal factors, as given under TPB. Compared to external factors, proximal factors are more disposed to change (Ajzen, 1991). These proximal factors are critical determinants of behavior and predict salient beliefs of the population that can be used to improve future behavior (Ajzen, 2005). In this perspective, if salient belief factors forming student intention are determined, these could serve as the reason to application of TPB and it could facilitate policymaker, researchers, and think tanks to address the issues related to educational intention (Cooper et al., 2016). The figure below shows the flow diagram showing the relationship between background and proximal factors for determining behavioral intention.

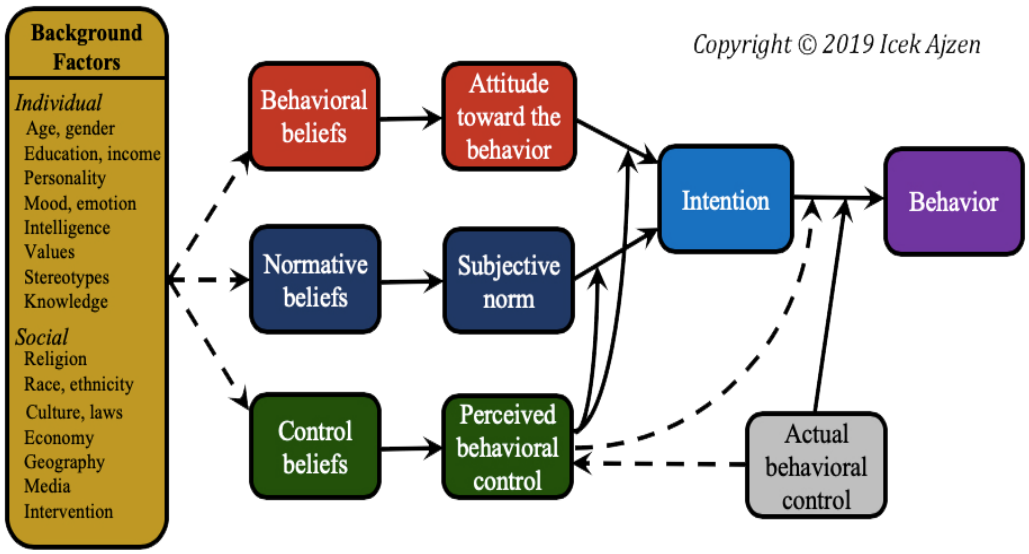


Figure 2.1: Theory of Planned Behavior (TPB) *(Ajzen & Kruglanski, 2019)*

From an educational perspective, the TPB has been widely used to assess intention (Cooper et al., 2016). These educational intentions involve multi-faceted domains, and TPB has been used as a framework to evaluate them. By looking deeper into the literature, the application of TPB has been found to predict and assess educational variables like the teachers' intention and behavior towards using technology (Teo & Lee, 2010) and intention to teach financial literacy (Teo et al., 2011). Similarly, TPB has also worked as a framework for examining student intention. Studies have been conducted to assess students intention for self-employment (Majogoro & Mgabo, 2012), intention to pursue higher education and graduation (Koe et al., 2012; Loh et al., 2014; Sutter & Paulson, 2017)

The TPB can pave the way for investigating the educational intention of the student. Similar is the case with male students intending to pursue higher education; it can be categorized as a component of educational choice and an essential ascendant of behavioral intention. The TPB can be effectively applied in an educational setting to understand and predict various academic behaviors, such as students' intentions to pursue higher education, engage in specific learning activities, or adopt certain study habits. In this context, TPB can be used to assess the relationship between background variables on male students intending to pursue higher education. Previously, most research focused on females and their intention to pursue higher studies.

In contrast, there are fewer attempts to study the intentions of male students (Deppen III, 2018). At the same time, these previous studies have used the TPB (Ajzen, 1991) to predict intention in various behavioural fields. It focuses on the individual decision that is led through logical and rational pathways based on the current information available to them (S. Ryan & Carr, 2010). This theory elucidates factors that form people's intentions towards certain behaviors. There are three determinants of this theory, i.e., attitude toward behavior, subjective norms, and perceived behavioral control (Ajzen, 2011). According to the TPB, these three determinants lead to people's behavioral intentions. In general, an attitude refers to positive components that enhance a positive approach towards intention. This positive attitude, social pressure, and perceived control compel performers to engage in particular educational behavior (Edannur & Firsad, 2015; Kan & Fabrigar, 2017).

TPB is considered one of the fundamental approaches to building a theoretical foundation in this study. It helps assess the relationship between background variables that affect TPB's proximal determinants (i.e., attitude, subjective norms, and perceived behavioral control). Meta-analysis shows that TPB can be used to assess possible behavioral intention and could be used as a model of behavior change (Nguyen et al., 2019). Given the potential uses of the TPB model for measuring behavioral intention, the present study aims to explore attitudinal, behavioral, and perceived control determinants that contribute to the intention of male students to pursue higher education in Malaysia. It will enable

the theoretical verification of elements in TPB for studying male students' intentions, further contributing positively to the existing knowledge body.

2.7.2 Attitude

Attitude is one of the primary determinants in the TPB. It significantly impacts educational behavior, goals, and intentions (Lipnevich et al., 2016). When researching academic attitudes, it is critical to identify credible rationalizations for them. Initially, Fishbein and Ajzen (1975) defined attitude as a person's set of beliefs towards the characteristics of a specific object. It is also discussed as an individual's overall evaluation or stance toward a particular behavior or action they are considering (Schwarz, 2007). Attitude reflects the degree to which an individual reacts to an object with an acceptable and non-acceptable reaction. This component is essential because it helps predict whether an individual is likely to engage in the behavior based on their attitude toward it (Forgas et al., 2011).

Attitude can be calculated for certain behaviours, institutions, persons, or events (Fishbein & Ajzen, 1975). Later, Tonglet et al. (2004) referred to attitude as favor and disfavor towards any action or behavior. In this context, an educational attitude refers to the set of favorable and unfavorable beliefs toward educational intention, behavior, or goal.

The second essential component is determining the provenance of attitude in the educational environment. Initially, the attitude was viewed as an ascription of four elements: evaluation, affect, cognition, and behavioral predisposition towards any object's favorable and unfavorable character (DeFleur & Westie, 1963). Later, Fishbein and Ajzen (1975), while discussing the TRA, classified attributes of attitude into three classes, i.e., cognition, affect, and conation, further divided into two possibilities: verbal and non-verbal dimensions. These indicators are translators of one's belief and evaluation about any object of attitude. Based on these connotations, Ajzen (1991) formed an equation for calculation attitude given as:

$$A \propto \sum_{i=1}^{n} b_i e_i$$

In this equation, attitude is directly proportional to the summation belief index. The summation belief index is a product of belief and subjective evaluation of belief attributes. This means that the belief evaluation can be categorized as favorable or unfavorable. The study implies that favorable and unfavorable impressions charged with a belief are instigated by specific social situations that lead toward behavioral intention (Rao, 2004). Similar considerations are made when measuring educational attitude; it is essential to determine the suitable set of educational beliefs and subjective evaluation directed towards specific educational intentions, behavior, or goals.

In an educational context, the attitude measure comprises two types, i.e., experiential and instrumental (Chavan, 2011; Huddleston, 2014). Experiential efforts involve practical aspects of attitude, whereas effective measures are formed through evaluative belief. These measures ensure calculative value, particularly when associated with educational behavior or goals. Both measures give an elaborative explanation of a positive or negative attitude. As Ajzen (2005) explained, the value of attitude could be truly calculative when assessed through experiential and instrumental beliefs toward behavior or intention. In this context, attitude tends to affect educational behavior and intent while measured through experiential and instrumental methods.

Attitude encompasses a set of beliefs that dynamically impact individuals' decision-making based on their mental state. Within this mental state, individuals are susceptible to the influence of experiences and situations as they engage with various components of the social system (Afzal & Rashid, 2018). Similarly, students navigate their development within the education system, where attitude is critical in shaping their decision-making processes (Md Talib et al., 2019). Academic attitude, as characterized by Lovelace and Brickman (2013), represents either a positive or negative sentiment toward education, signifying an inclination toward the pursuit of learning. Measuring attitude within an educational setting presents challenges due to its abstract nature, and this complexity remains equally challenging when assessing students (Afzal & Rashid, 2018). Clark and Hair et al. (2019) further emphasized the abstract nature of measuring attitude by discussing

its validity and limitations. In order to confront the difficulties associated with measuring attitude, several studies opt to examine subcomponents such as efficacy and motivation as a means to gauge attitude within the realm of higher education (Darwish, 2016; Menon et al., 2017; Nausheen et al., 2019). Additionally, some studies have strongly relied on the attitude scale (Payne & Judy Payne, 2004) to measure student approaches toward higher education (Afzal & Rashid, 2018; Darwish, 2016). Lovelace and Brickman (2013) conclude in their study that attitude scale and their scores are proxies to their construct, so researchers should be clear about the validity of these measurement scales in an educational context.

While considering student attitude, studies have suggested that it has a significant impact on learning (Afzal & Rashid, 2018; Eidimtas & Juceviciene, 2014; K. Hillman, 2010), thus translating students' intention toward higher education by influencing the decision process as an educational behavior (Deppen III, 2018; Eidimtas & Juceviciene, 2014; El Kharouf & Daoud, 2019a). Hillman (2010) found that attitude is crucial for secondary education students to get higher education. Similarly, Loh et al. (2014) and Md Talib et al. (2019) found a positive relationship between the students' attitudes toward seeking higher studies in Malaysia. According to Nausheen et al. (2019), students exhibiting a positive educational attitude tend to attain higher levels of academic achievement and pursue advanced educational degrees compared to their colleagues. These results suggest that attitude significantly influences the choice to seek higher education.

Hence, within this context, recognizing attitude as a pivotal determinant is essential in exploring male students' intentions to pursue higher education as a crucial aspect of their decision-making process. These findings conclude that attitude is an important factor that affects the decision to pursue higher education, so in this context, it should be considered an important factor in studying male students' intention to pursue higher education as a critical component of their decision process.

Hypothesis 7: Attitude towards higher education has a positive relationship with the intention of secondary school male students to pursue higher education.

2.7.3 Subjective Norms

Ajzen (1991), in the TPB, referred to subjective norms as the second determinant of behavioral intention, and it was stated as "perceived social pressure to perform or not to perform any behavior." Subjective norms are reciprocated by the normative belief that considers the approval or disapproval of the referent group towards intention or behavior. Subjective norms are calculated by taking the product of the strength of normative belief and individuals' motivation to comply with intentional goals or behavior (Ajzen, 1991).

Hagger and Chatzisarantis (2005) explained subjective norms as an individual's expectations regarding intention or behavior that significant others want them to perform. In an educational setting, subjective norms or normative beliefs tend to have a significant role in analyzing intention, behavior, or goal (Chang et al., 2013; Knabe, 2012). In this perspective, subjective norms are mostly translated from family and peer influence, thus reflecting motivational expectations towards subjective norms that determine the students' intention or expected behavior. For instance, Lewis-Persky (2010) found parents to be critical determinants in forming students' normative health and education beliefs. Similarly, Armitage and Conner (2001) found in the study that students' perception regarding any intention or behavior is influenced significantly by their peers. If peers endorse doing anything, students are likelier to do the same and vice versa. This shows students' normative beliefs are more translated from the social sphere of parents, peers, or colleagues. These subjective norms constitute social pressure and have the most significant impact while determining the importance of subjective norms in determining educational intention. Studies have found strong influence of subjective norms on behavioral intention of student such as, intention of self-employment after college education (Majogoro & Mgabo, 2012), the choice to use m learning (Tagoe & Abakah, 2014), the will to perform on course quality (Miller et al., 2018), to retain college education (Wated, 2011), intent to seek college education (Sutter & Paulson, 2017). The efficacy of TPB is relatively less tested empirically while studying students intending to strive for higher studies. Research findings on the relationship between social

influence and the desire of students to look for higher education in Malaysia have produced diverse and indistinct results. For illustration, Loh et al. (2014) found a significant relationship between social factors and intention to pursue higher education, while Md Talib et al. (2019) studied no significant impact of subjective norms on the intention to pursue postgraduate studies.

However, previous studies have shown that subjective norms are beliefs established due to social interaction (H. S. Park & Smith, 2007; Prasetyo et al., 2020). School students are more likely to develop social beliefs based on these two critical social encounters since they are more strongly tied to their parents and peers (Engin, 2020; Wolff et al., 2020; D. Yang et al., 2023). Subjective norms, as shaped by parents and peers, play a central role in influencing students' educational intentions. Parents and peers are two prominent sources of social influence in a student's life. While parents typically represent the family's values and expectations, peers can provide an additional layer of influence through peer pressure and shared norms. It is hypothesized that these social influences indirectly affect students' educational intentions by shaping their subjective norms. Parents often serve as role models for their children's educational aspirations. Their values, beliefs, and expectations regarding education can shape students' perceptions of what is considered 'normal' and 'appropriate' in terms of pursuing higher education (Otani, 2020). Subjective norms, in this context, act as a conduit through which parental influence translates into students' intentions. Similarly, Peer influence plays a substantial role in students' lives, including their

educational decisions. Peers can sway attitudes, behaviors, and aspirations. However, the impact of peer influence is often filtered through students' perceptions of what their peers expect and endorse. Subjective norms capture these perceptions, thus mediating the effect of peer influence on educational intentions. Therefore, it is anticipated that subjective norms mediate the relationship between these two factors including parents influence and peer influence while deciding to seek higher studies. In this context, this study considers to find the connection between subjective norms as part of social perception building and intention of male students to pursue higher education at secondary education level.

Hypothesis 8: Subjective norms mediate the relationship between parent influence and the intention of secondary school male students to pursue higher education.

Hypothesis 9: Subjective norms mediate the relationship between peer influence and the intention of secondary school male students to pursue higher education.

2.7.4 Perceived Behavioral Control

Perceived behavioral control is the third determinant in the TPB. It is discussed as one’s perception of the ability to perform a specific behavior.

Perceived behavioral control is one of the critical components for assessing intention, according to Ajzen (1991), and it can serve as an illustration for actually carrying out an action. Additionally, it is measured as the ability to act. Bandura (1997) defined self-efficacy similarly as a "belief in one's capability to organize and execute the course of action for attaining certain goals." This shows that self-efficacy is a proxy for perceived behavioral control, as these both tend to have the same explanations. Fishbein and Cappella (2006) also explained that self-efficacy and control beliefs are the same constructs. Stronger perceived self-efficacy leads to more significant efforts and a dynamic approach toward behavior or goal attainment (Robbins et al., 2004). These explanations explicitly demonstrate that one's belief in oneself results in more tremendous efforts, thus leading to more significant achievement toward intention or behavior.

Perceived behavioral control is mainly demonstrated as control beliefs as it is perceived ease or difficulty in intention transforming to behavior (Ajzen, 2012). If control beliefs are perceived to have ease, then it characterizes more on one's ability, and it is easier for an individual to perform a specific behavior. In an educational environment, perceived behavioral control and control beliefs reflect significantly on the intention of students to do or not to do any behavior (Ajzen, 2005; Eccles & Wigfield, 2002).

Literature suggests that perceived control beliefs are associated with the student's intentions in an educational setting (Cooper et al., 2016; Majogoro &

Mgabo, 2012; Raza et al., 2018; Teo et al., 2011). PBC tends to have a significant relationship in shaping the intention of individuals, for example, the intention towards inclusive education (Yan & Sin, 2014), students' intention to use m learning (Raza et al., 2018), intention to study science (Salleh, 2013). Richardson et al. (2012) demonstrated that self-efficacy (control beliefs) tends to have a positive association with academic performance that leads to a greater education level of students. In the Malaysian context, Loh et al. (2014) demonstrated a positive correlation between self-efficacy and students intending to seek university education; similarly, Md Talib et al. (2019), while using TPB, illustrated empirically that perceived behavioral control has a strong significant relationship with students intending to pursue postgraduate studies in Malaysia. In line with these findings, this study aims to find the relationship between perceived behavioral control and male students' intention to pursue higher education in Malaysia.

Hypothesis 09: PBC has a positive relationship with the intention of secondary school male students' to pursue higher education.

Additionally, Ajzen (1991) stated while explaining TPB that perceived behavioral control (PBC) is of primary importance because it is based on control beliefs. In this premise, PBC tends to influence attitude and subjective norms of behavior. From this perspective, this study also entails two more hypotheses from

the possible explanation of the relationship between the determinants of TPB. These hypotheses are given as follows:

Hypothesis 11: PBC has a positive relationship with the attitude of secondary school male students' toward higher education.

Hypothesis 12: PBC has a positive relationship with subjective norms of secondary school male students' toward higher education.

2.8 Research Framework

Evidence from previous literature suggests that the TPB is a well-established theory that determines the intention or behavior of individuals. In this understanding, TPB is considered a fundamental theoretical approach for this study. The TPB model in this study is used to assess male students' intentions. In this premise, the proximal determinants of TPB also act as a primary factor for this study. Based on these, a hypothesis is extracted that considers possible elements of TPB to measure the intention of male students toward higher education in Malaysia. These elements include four essential components that affect behavior, i.e., intention, attitude, subjective norms, and perceived

behavioral control. The four premises cannot be operationalized in isolation; background variables are considered to determine the possible relationship between these.

In order to understand the association of variables, intention is considered a dependent variable affected by three determinants of TPB (i.e., attitude towards higher education, subjective norms, and perceived behavioral control). These three determinants are linked to a set of background variables. Each set of background variables consists of two components formed into three possible categories that influence three determinants of TPB. These categories represent three different sets of constructs, including the personal factors of the student, which are linked to attitude, social factors with subjective norms, and economic factors as perceived behavioral control. Personal factors include motivation, academic achievement, and reciprocating students' attitudes toward higher education. The second construct of variables has parents' influence and peers' influence that form the social perception of students, thus resulting in subjective norms highlighting the social perception of male students towards higher education. The third construct includes the factors regarding possible resources and opportunities available to students translating toward control beliefs. These include career prospects, the family's socioeconomic status, and its relationship with the intention of male students to pursue higher education.

It is assumed that personal, social, and economic variables affect attitude, subjective norms, and perceived behavioral control while explaining the intention of male students to pursue higher education at the secondary school level. Figure 2.2 illustrates the research framework of this study.

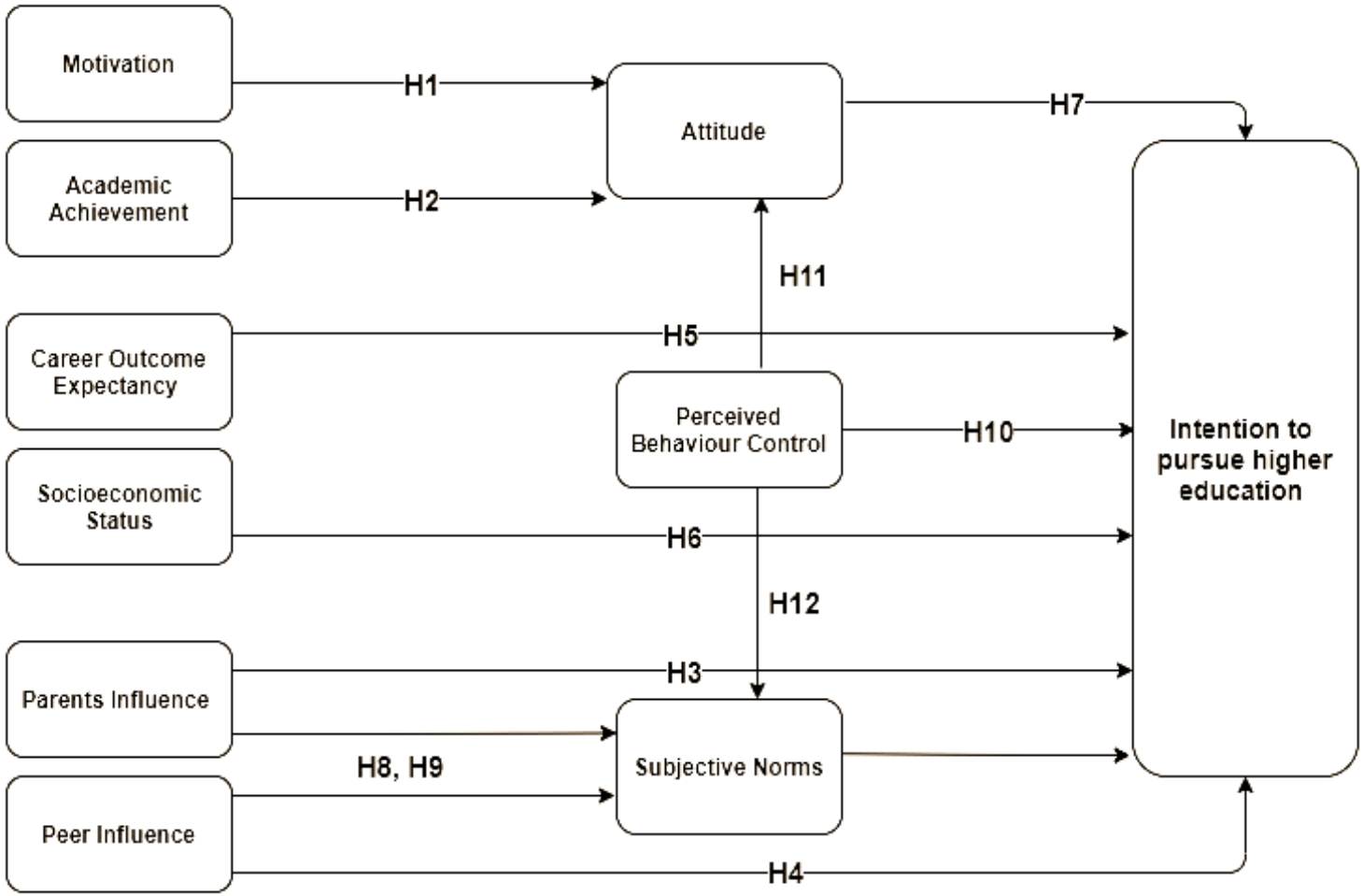


Figure 2.2: Conceptual Framework of the Study

2.9 Summary

The second chapter extensively examines the existing body of literature about individual, social, and economic factors affecting the intention of male students to seek higher studies after clearing school education. This section comprehensively discusses Ajzen's TPB. Furthermore, the chapter presents the study's conceptual framework, integrating the theoretical basis and incorporating pertinent variables. The proposed conceptual framework articulates the research hypothesis, establishing a solid groundwork for the subsequent research endeavors.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

The research methodology holds significant importance in any study, as it delineates the approach employed for gathering, scrutinizing, and deciphering data. This chapter provides an in-depth assessment of the research technique used in this study. For this purpose, the current chapter provides the details of scientific research methods to achieve the objectives.

This chapter has three sections that offer methodological processes for accomplishing the study objectives. The first sections discuss the philosophical locus of study supported by the positivists' approach to using quantitative methods for survey conduction. The second section includes details on the survey design, whereas the third part discusses the details of the survey apparatus used in this study. These sections consist of a comprehensive discussion of the procedures of the measurement method discussed with piloting and pre-testing the questionnaires. The third section includes an explanation of the sampling of male students as respondents and the procedures for data collection. The last part explains the plan for data analysis, methods for calculating Structured Equation Modelling (SEM), and several valuations to authenticate the findings

3.2 Research Process

This study follows the research onion model, aligned with the known research process framework proposed by (M. N. K. Saunders et al., 2015) and represented in Figure 3.1. This model is useful in helping the researcher through the sequential stages required to develop a robust research approach. Each layer in this model presents a different aspect of the research process, as detailed in M. N. K. Saunders et al. (2015). To improve the clarity and openness of the scientific approach, we have carefully specified the methodologies chosen for this study with unique checkmarks on each layer. This methodical strategy is critical to fulfilling the thesis's aims and assuring the rigor of research methods.

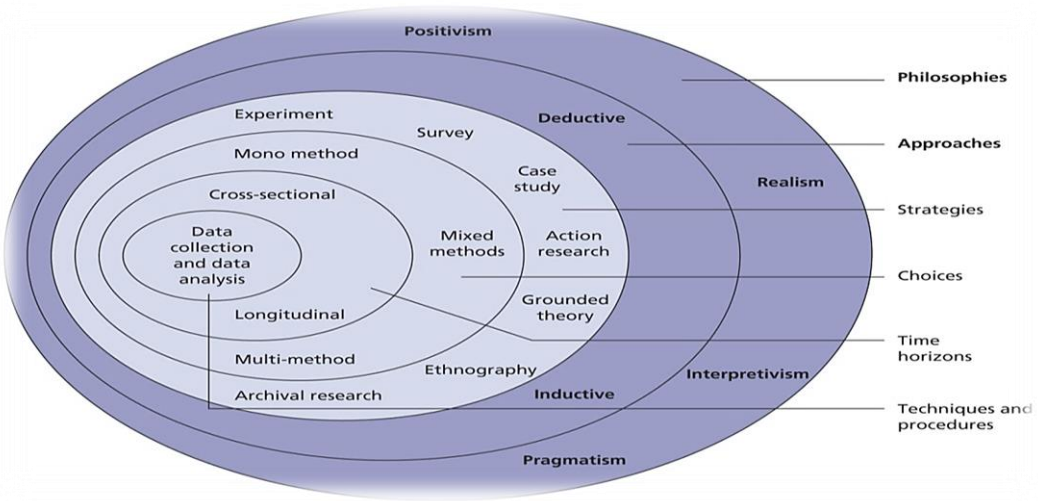


Figure 3.1 Research Process Onion (M. Saunders et al., 2019, p108)

3.3 Research Philosophy

The concept of "research philosophy," as defined by M. Saunders et al. (2019), centers upon the fundamental principles driving knowledge generation and the inherent nature of the knowledge. It functions as a guiding framework that directs researchers in their endeavors related to data collection, analysis, and interpretation (Carr, 2007). It is a guiding principle that explains the underlying epistemological and ontological perspectives inherent in a research endeavor (Holden & Lynch, 2004). Researchers encounter various paradigms within this domain, each characterized by its unique worldview, assumptions, and methodologies. It is critical to carefully analyze the research philosophy that best matches the study context, objectives, and questions, as it offers a cohesive and successful framework for conducting rigorous academic inquiry (Saliya, 2023). By outlining the guiding principles that guide data gathering and analysis, such a framework improves the transparency and integrity of study findings. Within the research philosophy domain, there are several well-recognized paradigms, notably interpretivism, positivism, critical theory, and pragmatism (Carr, 2007).

Interpretivism is a fundamental research paradigm emphasizing subjective interpretation and comprehension of human behavior, experiences, and complex social events (Potrac et al., 2014). This paradigm is commonly used in scientific research, particularly when examining problems with nuanced, context-dependent elements where human views, interpretations, and interactions are crucial (Bevir

& Rhodes, 2012). It is beneficial in subjects where human experiences and societal phenomena necessitate sophisticated, context-sensitive inquiry and comprehension. Researchers who conduct qualitative studies use this paradigm to emphasize meaning, interpretation, and the complex interplay of individual and contextual elements (Pulla & Carter, 2018). Critical theory is a framework and approach scholars use to critically examine and analyze social phenomena, institutions, and structures, focusing on uncovering underlying power dynamics, inequalities, and injustice (Callaghan, 2016). It provides a framework to engage in critical analysis, question established norms and power structures, and contribute to advancing social justice and equity through research activities (Callaghan, 2016). As a philosophical and research paradigm, pragmatism is distinguished by its core emphasis on practicality, problem-solving, and integrating multiple approaches to successfully solve real-world situations (Biesta & Burbules, 2003; James, 2020).

Positivism, as a research paradigm, is characterized by its empirical and objective approach to studying phenomena (Romm, 1991a). Positivism asserts that an objective reality can be methodically observed, measured, and analyzed (Heidtman et al., 2000). This paradigm's proponents think that knowledge may be gained through empirical evidence generated through comprehensive observation and experimentation (Y. S. Park et al., 2020). The commitment to objectivity, precision, and the utilization of quantitative data is a defining feature of positivist research (Whewell, 2017). The positivist approach is most commonly utilized for

studying the cause-and-effect relationship between variables (Y. S. Park et al., 2020).

In the context of the present study, which seeks to investigate the factors influencing the intent of male students' to seek higher studies, positivism will be a significant method. Positivism advocates that observation (senses) is a trustworthy measure of factual knowledge, and the researcher should have minimal effect on the data and analysis (Arghode, 2012). The same ontological approach is being adopted in this research study, as it tends to have minimal researcher effect, while observation is a crucial element for data collection and analysis.

The second crucial component in research philosophy tends to be ‘epistemology.’ It is a "theory of knowledge embedded in the theoretical perspective and thereby in the methodology" (Crotty, 1998). This process refers to understanding how knowledge is acquired and defining the parameters that constitute knowledge production within a specific study area (Becker et al., 2012). Social science research offers epistemology divided into two broader paradigms, i.e., realism and relativism. This study attempts to follow the realism paradigm, holding a particular discourse to reflect a true statement about the subject matter (Niiniluoto, 1999). Further, the positivist epistemological approach will be used to gather the data as it reflects the accurate empirical measures by relying on practical observation for finding factual knowledge. This makes the positivist

method an effective discourse for current research, as it requires observable and quantifiable data to find trustworthy results.

3.3.1 Philosophical foundation of the study

This study aims to analyze the factors that affect the intention of Malaysian male students towards higher education. For this purpose, the TPB, including three proximal determinants, is investigated while considering the impact of particular contextual variables that affect these three determinants of TPB. These three determinants of TPB are tested with three different constructs based on the nature of each element. Attitude is a personal factor in this context, and the impact of individual background variables, i.e., motivation and academic achievement, is analyzed with attitude. Social factors explain subjective norms that are further driven by parents and peer influence, whereas perceived behavioral control is interpreted as a control beliefs variable besides career expectations and socio-economic status, which are assessed as direct factors affecting the intention of male students to pursue higher education. Investigation entails the relationships of considered constructs as given in the study's theoretical framework. The positivist philosophy of research is applied in this study to accomplish the research objectives. The positivist approach is also known as the objectivist, quantitative, experimentalist, traditionalist, and functionalist paradigm (Holden & Lynch, 2004). It uses a hypothetico-deductive approach in which relationships are pre-determined and analyzed through quantifiable variables tested through statistical

analysis tools to draw inferences based on a sample generalized to the targeted population (Y. S. Park et al., 2020). The positivist method will allow a better understanding of the relationships of factors that affect male students' intention to pursue higher education in the Malaysian context. As Romm (1991b) has discussed, appropriation of the positivist approach helps predict and explain the relationship between variables. These explanations shape events to accomplish the outcomes (Heidtman et al., 2000; Romm, 1991a). In this regard, the positivist approach will provide the appropriate elucidation in studying the variables that affect male students' intention to pursue higher education.

Adopting a positivist approach with quantitative methods benefitted the study by imitating the current study's hypothesis and propositions (M. Saunders et al., 2009). Imitating is essential in social sciences research; it will help validate the results and appropriate theory testing (Becker et al., 2012; Matusov, 1996).

Furthermore, the objectivist approach was employed for this research work to study the relationship between the factors and the intention of male students using TPB to pursue higher education in Malaysia. Constructs are created by reviewing the literature, and hypotheses are developed to consider the relations between the factors that influence male students' choice towards higher education to ensure conformance to this strategy. Besides, a theoretical foundation is established to form these constructs and analyze these relationships quantitatively. The purpose is to obtain valid and reliable results and provide precise

interpretations and findings that can be generalized (Creswell, 2014). Based on this reasoning, the current study adopts a positivist and objectivist approach to examine the research question and accomplish the research objectives.

3.4 Research Design

Research design is a structure of study focusing on the strategy to explain the conduct. The research design can be broadly classified into two separate paradigms: quantitative and qualitative (Salkind, 2010). The quantitative approach uses numerical data and statistical analysis to find and explain cause-and-effect correlations between variables. This method is based on the positivist school of thought, emphasizing empirical observation and objective measurement of phenomena (Bloomfield & Fisher, 2019). In contrast, using non-numerical data, the qualitative method focuses on exploring and understanding complex social phenomena. Qualitative research explores the complexities of human behavior, beliefs, and experiences (Lewis, 2015).

In the context of the present study, a positivist research approach is regarded as appropriate, as it investigates the antecedents affecting male students' intention to pursue higher education in Malaysia. The positivist approach is consistent with the study's objectives, as it allows the researcher to discover the characteristics that underpin intention towards higher education, particularly for male students in

Malaysia (Y. S. Park et al., 2020). A positivist methodology is well suited for this research work because it emphasizes empirical observation and the formation of causal linkages.

In order to operationalize this approach, this study adopts a quantitative research method in which data is collected using a standardized questionnaire or survey. This quantitative strategy enables the systematic collection of numerical data pertaining to the variables of interest. The quantitative investigation provides quantifiable, reliable, and valid results, especially while testifying the hypothesis. In line with these explanations, the current study aims to use a quantitative approach to verify the hypothesis that will provide empirical evidence to justify the finding. Furthermore, it will help avoid the bias and speculations that may befall the interpretive approach (Wicks & Freeman, 1998). The survey data was then subjected to rigorous statistical analysis, allowing the researcher to determine and quantify the relationship between the predictor variables and the dependent variable, i.e., the intent of male students to pursue university education in Malaysia. The primary justification for using a positivist approach based on quantitative design in this study is its ability to establish causal links between the predictor variables and the intended outcome variable, allowing for a more holistic understanding of the factors influencing male students' intention to pursue higher education in Malaysia. By employing a positivist approach with quantitative methods, the study aims to provide a data-driven understanding of the

antecedents of decision factors driven by the intention of male students to pursue higher education, contributing to the existing body of knowledge in this field.

In addition, a cross-sectional survey method was adopted for this research work. Cross-sectional survey research refers to a quantitative study deployed to gather individuals' responses on prescribed factors for data collection, guiding towards testing the hypothesis (Mills & Gay, 2019; Ponto, 2015). In a positivist approach, the cross-sectional survey method is a valuable source for data collection as it allows data validation by examining the variables and their relationship (John & Creswell, 2000). Additionally, multiple techniques, including descriptive analysis, regression analysis, path analysis, and multivariate analysis through SEM, can explain the data obtained through the survey method.

Furthermore, the cross-sectional survey technique is considered adequate for gauging the data on beliefs, behavior, and attitudes in the population (Mills & Gay, 2019). It is regarded as the most cost-effective, time-saving, practical, responsive, quicker to administer, and minimal researcher effect technique, thus proving to be the most reliable method for reducing the desirable social bias (Becker et al., 2012). In addition to its advantages, utilizing a cross-sectional survey method presents certain limitations. These include a reliance on self-reported data, which may be subject to biases or inaccuracies, the potential for variability in response openness among participants, and the risk of low response rates due to non-participation or non-response from some individuals (Crane et

al., 2016). To overcome these challenges, the current study has ensured the deployment of specific measures, including a pre-test of a questionnaire, the privacy of respondents, and encouragement to provide the best possible responses by the follow-up (Mills & Gay, 2019).

3.5 Research Strategy

The research strategy is a fundamental component of every study, playing a critical role in defining the research parameters and mapping the way towards achieving the study's aims and objectives. It acts as the guiding framework that forms the research process, leading the selection of methodologies, data-gathering techniques, and analytical procedures to achieve the specific goals of the study. Given the nature of this research, a quantitative survey method was utilized to determine the predictors of male students' intention to pursue higher education in Malaysia. This study's primary data collection was accomplished using a self-administered survey conducted using a survey research technique. A survey can be defined as “a system of collecting information from or about people to describe, compare and explain their beliefs, attitude or behavior” (Fink, 2003). Survey support for data gathering is a good strategy for hypothesis-based, quantitative studies (Kelley, 1952). Additionally, this methodological option corresponds with a deductive approach, a regularly used research framework, allowing the researcher to efficiently and reliably acquire information from a

large and diverse pool of respondents while maintaining the participants' confidentiality and privacy.

This study adopted a cross-sectional time horizon, signifying that data collection occurred only once during the specified timeframe. The study's target population was comprised of male secondary students in various schools across Malaysia. The selection of respondents was facilitated through a non-probability sampling strategy. A self-administered questionnaire was employed in this study as the most reliable, valid, and effective method of collecting data from a large population. The questionnaire was created by adapting items from previous relevant studies for each construct. The questionnaire's validity and reliability were examined to ensure accurate measurement of the intended constructs and consistent results. An analytical approach was employed to analyze the gathered data, specifically employing Structural Equation Modeling (PLS-SEM) analysis. The details of the overall research approach are given in Table 3.1.

Table 3.1

Research Approach of Study

Strategy	**Quantitative/Survey**
Research Philosophy	Positivism
Research Approach	Quantitative /Deductive Approach
Time Horizon	Cross-Sectional
Data Collection	Survey technique using a self-administrated questionnaire
Sampling Strategy	Non-probability/Purposive random Sampling

3.6 Sampling Strategy

In survey-based research, sampling strategy is one of the vital components (Stopher, 2012). This study aims to analyze factors and their relationship with male students' intentions to understand better the potential factors that can influence more male indulgence in higher education. The scope of this research is limited to male students at the secondary school level in Malaysia. Hence, the unit of analysis is male students studying at the secondary (STPM) level in Malaysia.

3.6.1. Population

The population of this study is male secondary education students in Malaysia. Secondary education students are selected because they are more likely to proceed with further studies or seek higher education after completing their secondary schooling. Secondary schools serve as the right support system for students deciding on higher education (Temple, 2009). Besides, secondary schools are always considered to shape students' minds in determining whether to go for higher education; these significantly contribute to developing the students' intentions (Ainley et al., 1991; Temple, 2009). The secondary school serves as a basic level of study for mind mapping the further education attainment of students and contributes a lot to shaping the behavior towards future research (Eidimtas & Juceviciene, 2014). Thus, data from secondary students will be appropriate for this study.

According to the Ministry of Education Malaysia (2021), 1.99 million students were registered for secondary schools. The percentage of male students was 47.5%, which counts for 0.9 million students who study in Malaysian secondary schools. In this context, these male students in secondary education serve as a population for this study

3.6.2 Sampling Location and Sampling Frame

The sampling frame of the current study includes male students enrolled only in public sector secondary schools throughout Malaysia. This group was chosen for two reasons. First, they are especially susceptible to different circumstances that can influence their intentions toward higher education, perhaps leading to the continuation or discontinuation of future studies. The second justification for selecting male students from public schools as the sampling frame is the fact that a significant proportion of students in Malaysia tend to attend public schools. The educational statistics from the Ministry of Education state that over 88% of Malaysian students participate in public schools (Ministry of Education, 2021). The percentage of students appearing in STPM exams is also higher for public schools (Ministry of Education, 2017). Thus, to ensure the maximum coverage of students, it is implied that public schools should be targeted as they have a broader audience, and most students tend to pass through public schools in Malaysia.

3.6.3 Sampling Size

In a quantitative cross-sectional study, it is crucial to determine the sampling size. Selecting the entire population for data collection is unrealistic (Bhalerao & Kadam, 2010). It highlights the significance of choosing the sample and determining the sample size. In this context, sampling size is essential to a research study. The sample size determination is also critical because it reciprocates with statistical analysis, as larger samples are considered adequate, representing a more significant segment of the population (Biau et al., 2008). Sample size refers to the number of participants selected for data collection purposes. Appropriate sample size can help reduce biases by correctly representing the targeted population (Kotrlik & Higgins, 2001).

The sample size determination is critical because it has to be fair and truly representative of the population. In a quantitative study, where constructs are deployed for measuring attitudes, opinions, and trends, it is critical to study a sample, and results lead to effective generalization of the population (Creswell, 2009). The estimation of sample size is a crucial phase in the research for obtaining valid results. Studies suggest that it is essential to calculate the sample size using the quantitative formula (de Caprariis et al., 1976; Krejcie & Morgan, 1970). Krejcie and Morgan (1970) proposed a formula to determine the sample size for a study based on which population of one million should have a sample size of 384. Most quantitative techniques tend to have a sample size between

100-1000. Kotrlik and Higgins (2001) proposed a statistical formula including confidence interval, error margin, and alpha appropriation to determine the sample size with an appropriate sample size ranging from 100-800 based on population sizes. This study is based on structural equation modeling, which is considered an antecedent of causal relationships. An adequate sample size is required based on the model requirements. Hair et al. (2010) and Siddiqui (2013) recommend a 100-1000 appropriate range for sample sizes in SEM. Hair et al. (2010) suggested a comprehensive explanation of sample size selection based on construct models. The study suggests a minimum 100 sample size for the study having "five or less latent constructs and each latent construct has more than three items" and a sample size of 300 when the model has "seven or more latent constructs and each construct has more than three items." Wolf et al. (2013) also implied that a structured equation modeling technique should have a sample size of between 30 and 400 cases. Kock and Hadaya (2018) studied the implication of two different techniques while using PLS-SEM for sample size determination in which the minimum R^2 technique suggested having at least 174 respondents sample for a latent variable having a maximum of seven arrows pointed at the latent variable.

The sample size in this study was estimated using the formula provided by Krejcie & Morgan (1970), who suggested a recognized approach for determining sample size for a finite population. To determine the appropriate sample size, Krejcie & Morgan (1970) proposed to have a confirmed population size. The

number of male students enrolled in secondary schools was ‘0.99 million’ in 2020, as stated by the Ministry of Education's statistics (Ministry of Education, 2021). To ascertain an appropriate sample size for this study, the researcher applied a 95% confidence level with a 5% margin of error, considering the population of 0.99 million Malaysian male secondary school students. In this context, the minimum needed sample size was obtained using the Krejcie and Morgan formula as ‘384’ for the known population of ‘1 million’ (Krejcie & Morgan, 1970). The study considered a greater sample size, leading to a final sample size of 411 respondents to accommodate possible non-response or missing data. As a result, the current study's sample size of 411 is deemed suitable. It corresponds with the established criteria for researching the factors influencing Malaysian secondary school male students to pursue higher education. This sample size not only provides a reliable estimate but also allows for reliable statistical analyses. The researcher's use of the Krejcie and Morgan formula ensured that the sample size was appropriate for the limited population of Malaysian secondary school students. Table 3.2 shows the confidence interval sample size based on the population estimate calculated by Krejcie and Morgan (1970). This sample size provided a more authentic and accurate representation of population.

Table 3.2

Sample Size in Known Population

	Confidence Interval=95%			Confidence Interval=97%		
	Margin of Error			Margin of Error		
Population size	5%	2.5%	1%	5%	2.5%	1%
100	80	94	99	87	96	99
500	217	377	475	285	421	485
1000	278	606	906	399	727	943
10000	370	1,332	4,899	622	2,098	6,239
100000	381	1,513	8,762	659	2,585	14,227
1000000	384	1,532	9,423	663	2,640	16,055

Source: (Krejcie & Morgan, 1970)

3.6.4 Sampling Technique

The most crucial part of the sampling frame is to conceive the sample. It is a pivotal aspect of any research study, as it directly influences the representativeness of the population and the extent to which the findings can be generalized. In this instance, the sample refers to a subset of the selected population to have results that can be tested and generalized to a targeted study segment (P. Lavrakas, 2008). The sampling technique should have two possible objectives. Sampling techniques are designed to choose a representative, efficient, and impartial population subset, allowing for generalizability while controlling resources and ethical concerns (Bhalerao & Kadam, 2010). All of these concerns were given significant consideration when establishing the sampling technique for this study. In this study, the targeted population is secondary school students in Malaysia. These schools are scattered across different states of the country. In

order to ensure a comprehensive representation, the study adopts a multi-stage sampling technique, which entails the selection of a sample in several distinct stages

Therefore, it is essential to determine the selection of particular states as part of sampling. In the initial stage, five states were selected for the current study based on the Ministry of Education 2021 data on the number of students enrolled in the schools. The selection of Kedah, Perak, Perlis, Kuala Lumpur, Pulau Pinang, and Selangor was based on their substantial enrollment figures, leading to their inclusion among the chosen states for the study. These selected states have the most considerable 56 percent of schools, with the highest proportion of Malaysia's secondary schools (Ministry of Education, 2021), demonstrating the fair representation of the population, ensuring a diverse and substantial representation of public universities across Malaysia's target population. Additionally, the states mentioned above include all the socio-economic classes in Malaysia, thus ensuring their representation in the sample. Therefore, data from the selected states will give a good representation of secondary school students in Malaysia.

In the second phase, purposive random sampling was deployed to get the responses from the students. There were three significant reasons for choosing purposive random sampling. Firstly, it ensured the selection of only ‘male students’ as the study aims to assess male students' decision to pursue higher

education. The second reason was that any data gathering required formal authorization from the Malaysian Ministry of Education. In this context, when the Ministry was contacted, they requested the compilation of a list of schools that would be approached for data collection.

Consequently, the Ministry sought a designated set of schools from each state that should not exceed the 50 schools in the country. This approach would streamline the approval process with the Ministry and aid in securing the necessary formal approvals from state education departments. In this context, the list of schools was compiled to ensure an equitable representation of secondary schools. The purpose was to provide the selection of schools that accurately represented the population according to the number of students enrolled in secondary schools in the respective state (Sekaran & Bougie, 2003). The list of secondary schools was formed by dividing it into five subsets to gain proportionate selection from respective states. The actual population of students was determined to create the classified sections according to the student population in each state. This phenomenon led to the development of segment fractions from different states to accomplish the required sample. Table 3.3 illustrates the strata based on the number of students in the selected sample states.

Table 3.3

Proportional Selection of Selected Schools

No	States	Student Population	Percentage	School Selected
1	Kedah	176156	16.5%	13
2	Perak	190381	17.8%	20
3	Pulao Penang	118185	11.1%	12
4	Selangor	468258	43.9%	27
5	Kuala Lumpur	111462	10.5%	8
	Total	1064442	100%	80

Source: Ministry of Education (2021)

The proportional percentage was formed based on five states as the population is stratified in these five states. Each school in these states was given a number, and then the random number selection method was used to have a selected number of schools for final selection. MS Excel was used to generate the random number. The number generation in MS Excel was based on random numbers, and the total number of schools in each state defined the range. The selected number was listed and included in the Ministry's approval list. This selection mechanism, through random numbers, has an equal opportunity for unbiased representative sampling; thus, school selection through this method had an equal chance of selection and helped in unbiased selection (Siegel & Wagner, 2022). Eventually, the approvals were sought from federal and state education departments, and selected schools were approached to get the required data.

Overall, the blend of purposive and random sampling proved critical in selecting the representative sample for data collection from male students of public sector secondary schools in several Malaysian states.

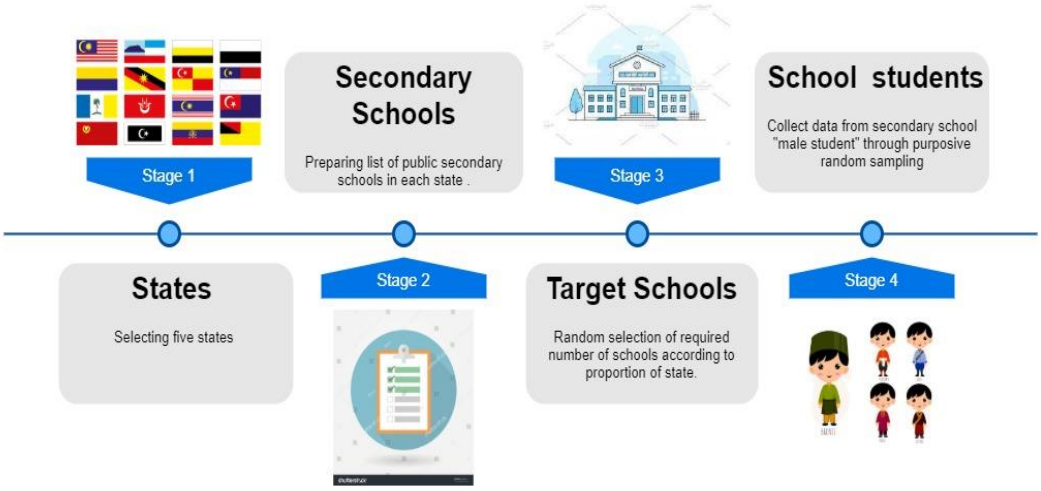


Figure 3.2 Sampling Strategy

3.7 Time Horizon

The current study aims to analyze factors that influence male students' lack of participation in higher education institutions in Malaysia. It is intended to study potential factors that affect the intention of male students, additionally analyzing the attitude and subjective norms towards higher education, especially at the secondary school level. For this purpose, male secondary education students were examined in a cross-sectional time frame. A cross-sectional survey collects data from the selected subset to make inferences about the targeted population at a single point in time (P. J. Lavrakas, 2008).

3.8 Survey Instrument Development

In survey instrument development, it is critical to discuss the scales. This study's validated scales are adapted from previous studies and extracted based on an extensive literature review. A second important component was to ensure the quality of the instrument for which Churchill's (1979) framework is used to develop better and more reliable tools (See Figure 3.2). This framework was later modified by Malhotra and Grover (1998) and proposed further processes, including validation and pre-test of instruments. The survey instrument's validation assures that the survey will measure the construct as it is supposed to progress through it. These two processes strengthen the reliability of the construct by providing effective responses intended from the survey study (Forza, 2002). The questionnaire for this study was discussed with the expert panel to accomplish validation goals for the survey instrument. The current research targets male secondary school students, so the questionnaires were distributed among the students to get the responses for the instrument's pilot study. It guided the study in assessing and improving the items included in the instrument for final dissemination among the targeted respondents.

Figure 3.3: Process of Research Instrument Development *(Churchill, 1979)*

3.8.1 Specification of domain

Specification of the research domain refers to the first step in survey instrument development. Churchill (1979) proposed delineating the inclusion and exclusion of what is required or not required as domain specification for particular research. This approach specifies and clarifies the precise measurement and ensures that things are measured correctly. To accomplish this objective, extensive literature is dissected to form a robust theoretical foundation for specifying the domain and providing the construct is measured correctly. Additionally, the comprehensive review of the literature helped conceptualize the construct. The body of research on gender disparity in Malaysia, intention to

pursue higher education, TPB, and educational purpose were extensively reviewed.

The second step was to adapt the validated scales where required. For this purpose, validated scales were adapted from an extensive literature review to generate items to measure the relevant construct (Malhotra & Grover, 1998). The levels utilized in this study are adapted from the studies in the area of educational research, focusing mainly on the intention of the students to ensure validated deployment of items for construct measurement. Previously, items related to attitude, subjective norms, and perceived behavioral control were employed within the educational context of Malaysia, demonstrating reliability in their application (Ainley et al., 1991; Cheng & Chu, 2014; Md Talib et al., 2019). The independent variables, including motivation, socio-economic status, parents' influence, and peer influences, are never tested earlier in the context of secondary school, with a particular focus on male students' intentions. Multi-item measures were used to help define the construct of these variables, as recommended by Churchill (1979). These items were measured based on the Likert scale. The reason for using a Likert scale is that it approximates the interval scale. It turned out to be very useful while applying the SEM tool for data analysis (Joseph F. Hair et al., 2017). Table 3.4 illustrates the details of the items used as a measure in this study.

Table 3.4

Adapted Scale Sources for the Study

Variables	Items	Sources of References
Motivation	09	Moua (2014) Harris (1998)
Parent Influence	11	Harris (1998), (Fouad et al., 2010)
Peer Influence	11	Harris (1998)
Career Expectancy Outcome (COE)	10	Springer et al. (2001)
Socio-economic Status	09	(Okioga, 2013)
Academic Performance	03	(Castillo-Manzano et al., 2016; Furnham et al., 2003)
Attitude	07	Ajzen (2006)
Subjective norms	06	Ajzen (2006)
Perceived behavioral Control (PBC)	06	Ajzen (2006)

3.8.2 Questionnaire Design

The questionnaire design is the second step in instrument development (Churchill, 1979). It is essential to have a validated and reliable questionnaire to measure the construct. The scale should be adopted or adapted carefully to measure variables correctly. In this study, pre-validated levels were adapted from previous literature. Initially, the questionnaire was drafted in English and translated into Bahasa Malaysia.

The questionnaire for this study was divided into two sections. The first section includes demographic details of the respondents, including some reference questions for socio-economic status and academic achievement. The second section was developed to seek the responses on the other variables of the study. The variables in this section were assessed using a five-point Likert scale. The Likert scale was used due to its utility in expressing reactions by specifying different levels, from strongly agree to disagree with a particular statement (M. Saunders et al., 2009). It helps to measure the responses and opinions more precisely, thus improving the quality of scale (Brown, 2011; Heggestad et al., 2019; Weng & Cheng, 2000). The items for the current study were measured using a Likert scale, considering all of the significances mentioned above.

The questionnaire was thoroughly examined by a team of experienced gender and education researchers, who provided valuable feedback that led to crucial changes. Furthermore, the instrument was subjected to a pilot test with 40 respondents from diverse Malaysian public secondary schools, during which no serious difficulties were detected. The scale's overall reliability was evaluated, providing a Cronbach's alpha coefficient above 0.80 for all factors, indicating a high level of instrument reliability.

3.8.3 Items Used in the Measure

The first section of the questionnaire comprised demographic details related to students. In this context, specific questions were devised to ask the relevant information. Table 3.5 presents demographic questions included in the questionnaire for gathering the required information from respondents, while the following sections provide a full breakdown of the variables and their corresponding items.

Table 3.5

Questions on Demographics

Sr. No	Questions	Response label
1	Gender (Jantina)	Male Female
2	What is your age (in years?)	Below 18 18 19 Above 19
3	What is your ethnicity?	Malay Chinese Indian Others
4	Where is your hometown?	(Please specify the state, such as Perak, Selangor etc.)
5	What is your father's highest level of education?	No formal education Less than primary education UPSR PMR/SRP SPM STPM Diploma Foundation Bachelor's degree Master's degree

		Doctorate (Ph.D.)
6	What is your mother's highest level of education?	No formal education Less than primary education UPSR PMR/SRP SPM STPM Diploma Foundation Bachelor's degree Master's degree Doctorate (PhD)
7	What is your father's occupation? Please Specify	Businessman, teacher, etc.
8	What is your mother's occupation?	Housewife, teacher, etc.
9	What is your father's monthly income?	0 - 999 1000 - 2999 3000 – 5999 6000 or more
10	What is your mother's monthly income?	0 - 999 1000 - 2999 3000 – 5999 6000 or more
11	How many 'A's did you obtain in your UPSR examination?	Above 7 A's 7-5 A's 4-2 A's 1 A None
12	How many 'A's did you obtain in your Form 3 examination?	Above 8 A's 8-6 A's 5-3 A's 2-1 A None
13	How many 'A's did you obtain in your SPM examination?	Above 9 A's 8-6 A's 5-3 A's 2-1 A None
14	Have you scored any academic achievement awards?	Yes No
15	What would be your educational preference after the STPM exams?	Matriculation A Level Diploma Bachelor's Degree

3.8.3.1 Motivation

In the second section of the questionnaire, motivational items were adapted from the study conducted by Moua (2014). Moua (2014) empirically identified the scale of academic motivation to test college students' prospects. The academic motivation scale was tested based on factor analysis and divided into specific indicators of motivation that formed the academic motivation scale for pursuing higher education. The previously mentioned study provided the factors that can be used to measure the motivation level of students in secondary school to indulge in the formal higher education system through colleges or universities. These factors contribute significantly to the measurement of academic motivation, as proved by later studies in comprehending the student prospects in different education systems (Javaeed et al., 2019; Puklek Levpušček & Podlesek, 2017; Utvaer & Haugan, 2016). Table 3.6 below shows the details of items adapted to measure secondary school students' motivation. The items of this scale assisted in measuring secondary school students' motivation.

Table 3.6

Items Used to Measure Motivation

Dimension	Code	Measurement Item	Reference of Scale
Motivation (Motivasi)	**MT1**	I am keen to pursue my higher education after my schooling.	(Moua, 2014)
	MT2	Higher education will allow me to learn about many things that interest me.	
	MT3	Higher education will help prepare and	

	eventually enable me to enter the job market in a field that I like.
MT4	Higher education will allow me to experience personal satisfaction in my quest for educational excellence.
MT5	Higher education will help me in learning new subjects and communicating my ideas to others.
MT6	Higher education will not waste my time after schooling.
MT7	Higher education will allow me to prove to myself that I can succeed in my studies.
MT8	Higher education will help me in gaining knowledge.
MT9	I will be more satisfied with myself by getting a higher education.

3.8.3.2 Academic Achievement

Academic achievement is the second variable in this study. There are two measures for academic achievement: the first includes teachers' ratings (Bennett et al., 2009) about a student, and the second consists of students' self-assessments measured by CGPA or grades (Arshad et al., 2015). This study's target population is students, so the appropriate method is to assess the student self-assessment. For self-assessment, it is notably beneficial to ask about the grading scores of students in the previous level of studies. Davison and Dustova (2017)

developed the understanding that measuring students' performance is best through test and examination scores. These results are demonstrated by the student's grades, percentages, or CGPA. This study adopts the scale of percentage scoring in previous classes for measuring and rating the performance of students that will demonstrate the student's academic achievements. The items for academic achievement have been reflected in the demographics table from questions 11 to 14 for scale measurement (see Table 3.6 above).

3.8.3.3 Parents Influence

The third variable in this study is parent influence. Harris (1998) validated the items using the parents and peer influence scale. The study was conducted to determine the factors that affect the pursuit of higher education. As a result, the questionnaire was formed based on ten factors that affect college student's decision to pursue higher education. These factors include a scale to determine the influence of parents on student's intention to seek a college education. The scale was validated later, and strongly associated items were included in the scale for measuring parents' and peers' influences. These items were used in later studies to measure the effect of parents' influence on multiple prospects (Alter, 2000; Barron, 2019; Fouad et al., 2010). Hence, these validated items were adopted to measure the parents' influence in this study. The items measuring parents' influence were adapted from Fouad et al. (2010) and Harris (1998). This scale

was developed to analyze the influence of parents on secondary school male students' intentions to seek higher education.

Table 3.7

Items Used to Measure Parent Influence

Dimension	Code	Measurement Item	Reference of Scale
Parents Influence	**PRI1**	My parents encouraged me to go for higher education.	(Fouad et al., 2010; Harris, 1998)
	PRI2	My parents always educate me about the importance of higher education.	
	PRI3	My parents talk about my educational difficulties.	
	PRI4	My parents consider that higher education is crucial for a better future.	
	PRI5	My parents think I should make my own decision about higher education.	
	PRI6	My parents ask me if something is bothering me in my studies.	
	PRI7	My parents think that my interest is important for pursuing higher education.	
	PRI8	I can talk to my parents about my future educational goals.	
	PRI9	It is always important to me to do what my parents tell me to do	
	PRI10	My parents strictly instructed me to pursue higher education.	
	PRI11	My parents understand the demand for my higher education.	

3.8.3.4. Peer Influence

The items for peer influence were adopted from Harris's (1998) study. This study has established a valid scale for measuring the influence of peers on the

pursuit of higher education. In this context, it will be a reliable scale for measuring peers' influence for this particular study. The items of adapted measures are given in Table 3.8 below.

Table 3.8

Items Used to Measure Peer Influence

Dimension	Code	Measurement Item	Reference of Scale
Peer Influence	**PI1**	My friends care about me.	(Harris, 1998)
	PI2	My friends appreciate my educational pathway ideas.	
	PI3	I follow what my friends do or plan to do.	
	PI4	My friends do not understand my demand to pursue higher education.	
	PI5	My friends believe that having a higher education will improve my social status.	
	PI6	My friends believe that having a higher education is vital for an excellent job.	
	PI7	My friends believe in having good grades in school.	
	PI8	My friends believe that they can get good jobs without getting higher education.	
	PI9	I talk to my friends about my educational experience.	
	PI10	My friends always give me positive advice when I am in trouble.	
	PRI11	My friends inspired me to pursue higher education.	

3.8.3.5 Career Outcome Expectancy

Regarding career expectations, Springer et al. (2001) have already developed the Career Expectancy Scale. This study considers career outcomes as a factor encouraging people to make individual decisions. The Career Expectancy Scale was designed to establish an understanding of outcome expectations in career pursuit. It was established in advancement to Social Cognitive Career Theory, focusing on career expectations. Springer et al. (2001) focused on career expectations by looking at the perspective of personal preferences. In this context, outcomes were analyzed by viewing an educational setting. The career expectancy scale was examined using data from college students because they are the direct observers for measuring career expectations, and it does depict a personal preference depending on which students choose for their further education (Rika et al., 2016). Hence, the scale for career expectancy measurement for determining their pursuit of higher education was adapted from Springer et al. (2001). The items for measuring COE are given in Table 3.9 below.

Table 3.9

Items Used to Measure Career Expectancy Outcome

Dimension	Code	Measurement Item	Reference of Scale
Career Expectancy Outcome	**COE1**	Higher education will give me a feeling of accomplishment for my job.	(Springer et al., 2001)
	COE2	Higher education will help me in getting a better job.	
	COE3	After getting higher education, it would be easy to make friends at my job.	

COE4	Higher education will enable me to work at a place with the right working conditions.
COE5	Higher education will enable me to have greater opportunities for self-advancement at my job.
COE6	Higher education will help me gain intellectual stimulation at my job.
COE7	Higher education will not help me grow at my workplace.
COE8	Higher education will help me learn job skills for my future prospects.
COE9	I will be more competitive in the job market after getting a higher education.
COE10	I will not be able to earn more money after getting a higher education.

3.8.3.7 Socioeconomic Status

The socioeconomic status scale was adapted from a study by Okioga (2013). The details of the scale as per item to measure the construct are given in Table 3.10. Socioeconomic status assesses secondary school students' economic and social position. Various items on the scale about parental education levels, household income, and other pertinent socioeconomic characteristics support this assessment.

Table 3.10

Items Used to Measure Socioeconomic Status

Dimension	Code	Measurement Item	Reference of Scale
Peer Influence	**SOE1**	My parents can give me sufficient pocket money during my higher education.	(Okioga, 2013)
	SOE2	I can afford basic items like the internet, utilities, clothes, laundry, and transport.	
	SOE3	I can afford quality bedding items.	
	SOE4	I can afford to buy adequate learning materials.	
	SOE5	I receive an adequate amount from my family to support my living for my higher education.	
	SOE6	I can afford quality food.	
	SOE7	I can afford quality entertainment.	
	SOE8	I can afford the required IT equipment and gadgets required for my higher education.	
	SOE9	I will have to work part-time to earn some money for financial support to get a higher education.	

3.8.3.8 Attitude towards Higher Education

The three proximal determinants of TPB, i.e., attitude, subjective norms, and perceived behavioral control, are considered crucial factors in this study to assess the intention of secondary school students to continue education. Attitude towards higher education serves as a factor in determining the intent to pursue higher education. In this context, attitudes are formed based on the guidelines Ajzen (2006) gave for constructing the relevant questions. The efficacy of a TPB questionnaire has already been proven in studies (Cooper et al., 2016; Tonglet et

al., 2004). The appropriate items are formed to measure the attitude of students towards higher education. Table 3.11 shows the individual items used in the scale of attitude measurement.

Table 3.11

Items Used to Measure Attitude towards Higher Education

Dimension	Code	Measurement Item	Reference of Scale
Attitude	**ATT1**	I wish to continue my higher education	(Ajzen & Fishbein, 2005)
	ATT2	It makes me feel good to be involved in my studies to get higher education.	
	ATT3	I find it exciting to discuss about higher education.	
	ATT4	Pursuing higher education seems to be an achievement for me.	
	ATT5	I feel that higher education is important for improving the life of an individual.	
	ATT6	It is fundamentally important to get higher education.	
	ATT7	I consider it value for money to get a higher education.	

3.8.3.9 Perceived Behavior Control

Perceived Behavioural Control is a notion that refers to a person's view of their ability to affect and govern their behavior in a given situation. As shown in Table 3.12, the scale items used to measure PBC in this investigation were adapted from a study by Ajzen (2006). These precise items were chosen to provide a deeper understanding of the degree to which individuals engaged in

schools (those participating in the study) believe they have control over their decision to pursue higher education.

Table 3.12

Items Used to Measure Perceived Behavior Control

Dimension	Code	Measurement Item	Reference of Scale
Perceived Behavior Control	**PBC1**	It is easier to get higher education by scoring good marks in my school education.	(Ajzen, 2006)
	PBC2	It is easier for me to get a higher education by spending more time on my studies.	
	PBC3	It is easier for me to get admission to any higher education institution.	
	PBC4	It is easier for me to make the decision to pursue higher education.	
	PBC5	It is easier for me to get higher education if my friends are also keen to get it.	
	PBC6	It is easier for me to know all the requirements for getting higher education.	

3.8.3.9 Subjective Norms

The scale for subjective norms was formed by following the guidelines of Ajzen (2006). The subjective norms refer to the social formation of secondary school students to pursue higher education. In this context, Table 3.13 refers to the individual item in the questionnaire to assess the subjective norms assisting in pursuing higher education.

Table 3.13

Items Used to Measure Subjective Norms

Dimension	Code	Measurement Item	Reference of Scale
Subjective Norms	**SN1**	I believe my parents would expect me to get a higher education	(Ajzen, 2006)
	SN2	I believe my friends would expect me to get a higher education.	
	SN3	I believe my parents would financially support me to get a higher education.	
	SN4	I believe most of my friends want to pursue higher education.	
	SN5	I believe my family would expect me to get a higher education for a better life.	
	SN6	I believe society would not care about me getting a higher education.	

3.8.3.10 Intention to Pursue Higher Education

Intention to pursue higher education measures the tendency of secondary school students with which they are likely to carry their studies further. In this context, the scale for intention is derived from TPB as a crucial part of the theory (Ajzen, 2006). The details of items included in this scale are reflected in Table 3.14 below.

Table 3.14

Items Used to Measure Intention to Pursue Higher Education

Dimension	Code	Measurement Item	Reference of Scale
Subjective Norms	**INT1**	I intend to pursue my studies in the future	(Ajzen, 2006)
	INT2	I always try to devote myself to studies to pursue higher studies.	

INT3	I intend to pursue higher education because it will contribute to my personal development.
INT4	I plan to continue my studies until I graduate from university.
INT5	I intend to pursue higher education because it is compulsory for my professional development.
INT6	The decision to pursue higher education is out of my control.

3.8.4 Questionnaire Translation

The questionnaire was formed based on items adapted from previous studies and was written in English. The questionnaire was aimed to be distributed among the school students. For better understanding and efficient responses from the students, it was crucial to have a Bahasa Melayu (BM) version of the questionnaire. The discussions with school principals and experts also led to the same result: translating the questionnaire items into Bahasa Melayu (BM) is vital for a better understanding of the questions. In this way, students will understand the questions quickly and appropriately, thus resulting in proficient responses. The items in the questionnaire were translated into Bahasa Melayu (BM), considering the vitality of language translation.

The questionnaire translation is a complex phenomenon as it can trigger complications. For this purpose, several methods are used with known vitality and appropriateness. These techniques include back-translation, bilingual approach

pre-test, and committee technique (Brislin et al., 1973; Campbell et al., 1970). These translation techniques are proven for translation. Back-translation is among the most used and recommended by researchers in cross-cultural research (M. M. Ali, 2016; Brislin, 1970; Brislin et al., 1973). The Back-translation technique serves the dual purpose of appropriateness and quality translation assessment (Tyupa, 2011). Brislin (1970) suggested a decentering approach in back translation to enhance the quality of translated items. The decentering process involves both original and translated questionnaires. Both versions of the questionnaire are checked and referred to simultaneously so that none of the languages become the center of dominance (Brislin, 1970). This study uses the back-translation method, employing the decentering approach for questionnaire translation. It enhances the quality of translation by focusing on the equivalence of original and translated questionnaires. In the back-translation process, two bilingual translators are involved; one translator translates from one language to the target language, whereas the other translates back blindly to the original language. These results are presented in two translated versions of the same questionnaire. This study followed the same process, including a native BM speaker fluent in English who translated the questionnaire from English to BM. Subsequently, the BM-translated version was again back-translated into English by another native BM speaker to ensure translation accuracy. The questionnaire was discussed with both translators for better evaluation. Revisions were made in both version of the questionnaire especially regarding the persistence of word used. The most prominent changes required were the consistent use of two words

including ‘pendidikan’ and ‘plajaran’. Besides other changes were regarding the correct selection of word and spelling mistakes in BM language. These changes were incorporated carefully in the translated version of the questionnaire. This final version of questionnaire was tested by sharing with the translators and it was concluded that it provided better understanding of the items included in the questionnaire. The instrument was later gone through the process of pre-test and pilot study (Maneesriwongul & Dixon, 2004).

3.8.5 Pre-testing of Research Instrument

In social science research, a pre-testing questionnaire is essential to refine the questionnaire by identifying its errors (A. Bowden et al., 2002). It is a test run for preparing the final data collection (Van Teijlingen & Hundley, 2001). Pre-testing is conducted before the final data collection; this provides an understanding of the questionnaire's effectiveness (Reynolds et al., 1993). It is illustrated to have the same role as a feasibility study in new product development. Indeed, data collection should be a prerogative of the pretest and should not begin without pre-testing the questionnaire (Van Teijlingen & Hundley, 2001). This way, the pre-testing process is used to refine the questionnaire design by highlighting the inaccuracies.

Furthermore, it is crucial to determine the stage at which pre-testing should be performed. Brislin (1970) suggested that it is helpful to perform the pre-test

after the translation, as it will support gauging the proficiency of the questionnaire. In this context, pre-tests after translation are more efficient and provide valuable results. Additionally, the items in the questionnaire ought to acquire the input of experts to warrant content validity (Van Teijlingen & Hundley, 2001). Experts analyze the content and face validity of each item in the questionnaire. It is also examined whether items comply with the operational definition of constructs (Mueller, 2010). In this context, Burns et al. (2014) suggested involving five to ten respondents in a pre-test to identify issues in a research instrument. Considering the given number, the current study deploys five experts to pre-test the questionnaire.

Two experts were from higher education institutions with experience in questionnaire development, whereas three experts were from schools, including school teachers and principals. The reason for selecting school teachers was to assess the understanding of the questionnaire for school students, as they are in direct contact with the students. It gave a comprehensive illustration of the instrument's items. The panel of experts evaluated the validity of the questionnaire by highlighting the understanding of the errors and omissions in the questions, whereas the panel of teachers highlighted the level of understanding that the items portray for the students. The researchers asked about potential problems, such as words and phrases that are not commonly used among the students. The recommendation included a modification of the options given to assess the degree level of the students; secondly, it was suggested to remove the

UPSR from the current education level, as it is no longer being offered in the Malaysian education system. The second suggestion was to update the age group of the students according to the target level of students, so the age group range was updated into three categories: below 18, 18, and above 18 years. The third suggestion was to change the grading scale of the students to assess their academic achievement. Initially, the question on academic achievement included the responses in percentage. It was recommended that the measurement scale for educational attainment be replaced with the grades in question number three. In this context, the response of items was replaced with the grades as a measure of the item. The fourth recommendation was to rephrase the questions in terms of the parent's influence, peer influence, subjective norms, and behavioral intention. The changes made in the questionnaire are reflected in the table below:

Table 3.15

Changes After the Pre-test

Variable	Original Item	Suggested changes
Parent Influence	PR3: My parents talk about my educational difficulties. *Ibu bapa saya bercakap mengenai cabaran berkaitan pendidikan saya.*	PR3: My parents always discuss about my educational difficulties. *Ibu bapa saya bincangkan mengenai cabaran berkaitan pendidikan saya.*
Peer Influence	PI2: My friends appreciate my educational ideas. *Rakan-rakan saya menghargai idea pendidikan saya.*	PI2: My friends appreciate my ideas for an educational pathway. *Rakan-rakan saya menghargai idea laluan pendidikan saya.*
Subjective Norms	SN2: I believe my family wants me to get a higher education for a better life. *Saya percaya keluarga saya*	SN2: I believe my family would expect me to get a higher education for a better life.

	mahu saya mendapat pendidikan tinggi untuk kehidupan yang lebih baik.	*Saya percaya keluarga saya menjangkakan saya akan mendapatkan pendidikan tinggi untuk kehidupan yang lebih baik.*
Perceived Behavioral Control	PBC4: It is easier for me to get admission to any higher education institution. *Ia mudah bagi saya untuk mendapatkan kemasukan ke mana-mana institusi pendidikan tinggi*	PBC4: It is easier for me to make the decision to pursue higher education. *Ia mudah bagi saya untuk mendapatkan keputusan bagi mendapatkan pendidikan tinggi.*
Behavioral Intention	BI2: I always try to devote myself to pursuing higher studies. *Saya sentiasa cuba untuk menumpukan sepenuhnya diri saya dalam pelajaran untuk menyambung pendidikan tinggi.*	BI2: I always try to devote myself to pursuing higher studies. *Saya sentiasa cuba untuk menumpukan sepenuhya diri saya dalam pelajaran untuk menyambung pendidikan tinggi.*
	BI7: I intend to continue my education for the sake of good.	Item removed

3.8.5 Assessing the Reliability and Validity of the Questionnaire

The final data collection requires a valid and reliable questionnaire and the correct items to measure the necessary factors. For this purpose, the current study utilized Dillman's (2000) four data validity and reliability phases. These four steps involve the following

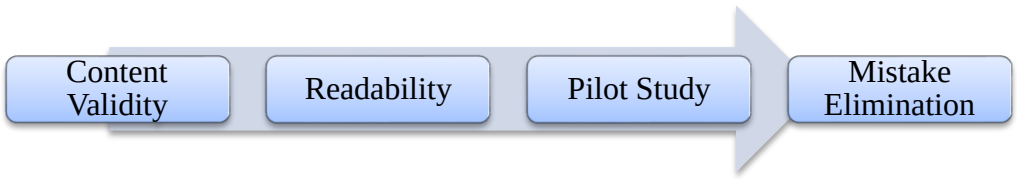


Figure 3.4: Validity and Reliability Process

3.8.5 Content Validity

In the first step, content validity was ensured for the questionnaire design. It was assessed that questions were well communicated and the right things were used for the correct measurements. In this context, Saunders et al. (2009) suggested using a panel of experts to validate the items and measure the factors. This study has adopted the same strategy to endorse the questionnaire's content.

3.8.6 Readability

Readability refers to the written words that are attributed as semantic and syntactic. It is helpful to determine the “relative utility of a passage of text for persons with varying degrees of reading skills” (Calderón et al., 2006). The questionnaire was distributed to students and subject matter experts for assessment and evaluation. This process gave a better understanding by critically knowing the readability and got positive feedback for improving the items of the questionnaire where required. This process also helped identify the questionnaire's length, design, and organization. It was further valuable for understanding the words, sentences, and terms used in the questionnaire.

3.8.7 Pilot Study

The pilot study entails small-scale research conducted to assess the actual data collection. It is also referred to as a trial study to check the issues and problems associated with fundamental research to avoid and improve these accordingly. Hassan et al. (2006) referred to a pilot study as a small-scale work to "*test research protocols, data collection instrument, sample recruitment strategies, and other research techniques in the preparation of large-scale work.*" The pilot study helps identify the questionnaire's potential issues, problems, and shortcomings to avoid in large-scale studies. It also helps the researcher familiarize themselves with the measured research items to get more improved responses by choosing the appropriate data collection techniques (Lancaster et al., 2004). Hence, this study utilized an administered procedure to conduct the pilot study by distributing the questionnaire in an informed manner. This practice was a good source of information for the final questionnaire formation. It also enhanced the reliability and adequacy of the questionnaire while contributing effectively towards the final questionnaire (Salkind, 2010). Saunders et al. (2009) suggested conducting the pilot study even if the researcher has time constraints, as the pilot study is a valuable tool for measuring the validity of the questionnaire. Fink (2003) suggested that ten responses are enough to conduct the pilot study and assess the items involved in the questionnaire. The pilot study helps identify the potential changes required in the questionnaire for better measuring the results. The pilot study results are used to assess the reliability and validity of the study.

Hence, for this study, questionnaires were employed based on basic procedures to carry out the pilot study. For this purpose, the principals of the schools were contacted for seeking permission for data collection. Final questionnaire was shared among the 40 students in the secondary schools. Respondents were asked to fill out the questionnaire and share their understanding of the questionnaire items. Respondents understood the questionnaire, and there were minimal changes in the final questionnaire. The reason was that the official translator had already translated the questionnaire and had undergone the decentering process of the pre-test procedure before getting the response. The suggestions received after the pilot study pertained to the items' spacing and changing the unit measurement for students' study level by mentioning the particular class level.

For this study, 40 questionnaires were distributed among secondary school students to attend the pilot study. Further, the pilot study's data will be incorporated into Smart PLS to conduct the reliability and validity results.

3.9 Data Analysis Technique

This study has deployed descriptive and inferential analysis to present the data as useful information. Descriptive statistics were used to get the respondents' profile details. At the same time, the data was assessed for missing values, response patterns, outliers, linearity, homoscedasticity, and multicollinearity.

Inferential statistics were used to obtain results for structural equation modeling (SEM).

SEM is an effective data analysis technique; it is a second-generation statistical procedure for explaining relationships between one or more exogenous variables and one or more endogenous variables (Tabachnick & Fidell, 2013). SEM has advantages over first-generation techniques, including regression and principal component analysis (Ashill, 2011). The benefits of SEM include analysis of multiple exogenous and endogenous variables, analysis of latent variables represented through unobserved theoretical concepts, measurement error accounts, and testing of priori measurement based on theoretical concepts of empirical data (W. W. Chin, 1998).

SEM is divided into two categories. The first includes the calculation based on covariance, also known as SEM (CBSEM). The second category is calculated on a variance basis and is known as SEM, which includes partial least square SEM (PLS-SEM). These two types of SEM fall under second-generation regression techniques. CBSEM is used to evaluate the covariance matrix of the collected data and its estimation based on the proposed theoretical model (W. W. Chin, 1998). To have a simplified explanation, CBSEM is used to verify the description of the proposed conceptual model and explain the fit for research data (Gefen et al., 2000).

In contrast, the variance-based technique is oriented to predictions. It focuses on maximizing the accounted variance of a particular endogenous variable (Joseph F Hair et al., 2017). PLS-SEM is considered a suitable tool for the development of theories while explaining the constructs (W. W. Chin, 1998). It is also considered a fully developed authentic model for predicting the constructs (Joe F Hair Jr et al., 2017). The current study has employed PLS-SEM for data analysis. It has been suitable for predicting the students' intentions with the combination of theory. This model was also utilized to check the applicability of the exploration and development of theory. With this approach, the current study has explored the proposed theoretical model and, at the same time, maximized the variance explained by male students' intention to pursue higher education.

Moreover, PLS-SEM is considered the most fully developed and general system (McDonald, 1996) *and* is suitable for exploratory studies (Henseler, 2018; Riou et al., 2016). SMART-PLS software was used for data analysis using SEM. The analysis through SMART PLS will include two measures: measurement model evaluation and structural model evaluation.

3.9.1 Measurement Model Evaluation

The measurement model demonstrates the relationship between a construct and its observed indicators. It is an initial stage to get across before evaluating the

relationship between variables through the structural model. The model must possess acceptable fitness results to be valid and reliable data for measuring particular items. The results should include maintaining fitness; otherwise, the model will have meaningless explanations (Hair et al., 2017). Table 3.16 below shows the tests applied in the measurement model evaluation.

Table 3.16

Measurement Model Evaluation Tests

Validity Type	Indicator	Criterion
Model Goodness-of-Fit (GoF)	Standardized Root Mean Square Residual (SRMR)	Value of 0.08 and below (Hu & Bentler, 1999)
Reliability Analysis	➢ Cronbach's Alpha ➢ Composite Reliability ➢ Indicator Reliability	0.6-0.7 (Joseph F Hair et al., 2006)
Construct Validity Analysis	➢ Convergent Validity (AVE Values) ➢ Discriminant Validity (Fornell and Larcker Criterion)	➢ AVE => 0.5 (Henseler et al., 2009) ➢ For Discriminant validity, the value of the square root of AVE of each variable should be higher than the correlations among the variables. (Henseler et al., 2009)
Multicollinearity Analysis	VIF Values	➢ Between +1 and -1(Excellent Normality) ➢ Between +2 and -2 (Satisfactory Normality) (Toebe & Cargnelutti

		Filho, 2013) (George & Mallery, 2003)
Data Normality	Skewness and Kurtosis	If VIF is greater than or equal to 10, then it is said to have a multicollinearity issue. (Bai & Ng, 2005)

3.9.2 Structural Model Evaluation (SME)

The measurement model's surety and appropriateness are assessed through the structural model evaluation conducted on the given data. It provides evidence to support the theoretical model. SME is also used to verify the hypothesis with its effect and significance. This is ensured through bootstrapping in PLS-SEM. The test applied in this analysis is given in Table 3.17 below.

Table 3.17

Structural Model Evaluation Tests

Validity Type	Indicator	Criterion
Structural Path Significance	➢ T-statistics ➢ P-Value	T is greater than 0.196 (significance level = 5%) or greater than 0.165 (significance level = 10%)
Estimates of Path Coefficients	Same as standardized beta coefficients	
Coefficient of Determination	Through the R2 value for endogenous latent variable	➢ 0.75 Substantial ➢ 0.50 Moderate ➢ 0.25 Weak (Nakagawa et al., 2017)
Effect Size	The f2 value	➢ 0.35 Strong ➢ 0.15 Moderate ➢ 0.02 Weak (Fritz et al., 2012)

3.10 Research Process

The research process for this study was conducted in five phases. The details of these five phases are given below:

3.10.1 Phase 1

The first phase included identifying problem areas with supporting statistics and a comprehensive literature review. Both of these are crucial in initiating research work that streamlines the research questions and objectives of the study. Similarly, a literature review was used to validate the research gap. In contrast, supporting statistics were collected and formed into helpful information for carving the way to demonstrate this research problem area. Afterward, research questions and objectives were developed accordingly.

3.10.2 Phase 2

A suitable methodology was determined in the second phase to evaluate the research question and achieve the appropriate research objectives. Additionally, the details of the target population, sampling technique, and data analysis techniques were determined to get the analysis work to streamline this study.

3.10.3 Phase 3

Phase 3 includes data collection. Data was collected from male students studying at the secondary school level in Malaysia to get the required data for further analysis.

3.10.4 Phase 4

The data collection led to the later stage, i.e., data analysis. In phase four, data analysis was performed, which was divided into two categories, i.e., descriptive and inferential. Descriptive analysis was utilized to elaborate on the details of respondents, while inferential statistics were included to execute the PLS-SEM technique and get the required results for hypothesis testing.

3.10.5 Phase 5

Phase 5 represents the final stage of this research work, where the results have been analyzed, conclusions drawn, and the thesis write-up has been refined to ensure the completion of the work as planned. This phase also involves recommending future steps based on the concluding findings.

3.11 Summary

This chapter provides a detailed overview of the research methods used in this study. It begins by outlining the study's research philosophy, approach, and strategy. This study's positivist research philosophy emphasizes objectivity, measurement, and observation. The research strategy was centered on survey research, and a deductive research approach was utilized for the current study.

The data collection process consisted of conducting an online survey using a purposive random sample strategy. Existing validated scales were adapted to create the survey instrument, and a careful approach was followed, including pre-testing and a pilot study to improve the instrument's quality. The survey data was coded, cleaned, and analyzed using a thorough approach that was later analyzed using Structural Equation Modelling (SEM). SEM was utilized because it can discover linear and non-linear correlations among the variables under consideration and facilitate hypothesis testing.

In short, Chapter 3 explains the study's research methodology, data collection procedure, and analytical framework. Using an SEM technique and the adapted survey instrument provided a robust and efficient approach to meeting the study's objectives. The chapter concludes by emphasizing the critical relevance of ethical guidelines throughout the study.

CHAPTER FOUR

RESULTS AND DISCUSSION

4.1 Introduction

This chapter is divided into sub-sections based on the statistical analysis performed for data analysis and findings. For this purpose, section 4.2 covered pilot study results for testing the instrument's internal consistency before the final data collection. Section 4.3 includes the measures undertaken to handle the preliminary part of data analysis, including missing values, data screening to assess the pattern of response, and outlier identification. These steps led to the final stage of data analysis. For this purpose, section 4.4 includes the statistical results for normality, linearity, homoscedasticity, and multicollinearity. It is followed by the next section, i.e., 4.5, which consists of the descriptive for presenting the demographic profiles of respondents. Section 4.6 illustrates the standard method for assessing the non-response bias. Section 4.7 demonstrates the measurement model. The measurement model measures internal consistency through verification for reliability, convergent, and discriminant validity. It is followed by section 4.8, which includes the evaluation of theoretical propositions based on statistical analysis conducted in this study. It has crucial results for path coefficients, including coefficient of determination, indirect effects, effect size, and relevance to the predictive model for the current study.

4.2 Pilot Study

The pilot study intended to "refine based on testing" and validate final questions (Hassan et al., 2006). The particular objective was to assess the structure of questions appropriately for better understanding and to draw relevant responses from the participants. It serves as a preliminary stage before final data collection for questionnaire improvement. It is crucial to conduct a pilot study to assess and rectify the questionnaire changes based on actual responses (A. Bowden et al., 2002). In addition, the pilot study serves as an instrument to assess the crucial aspects of the questionnaire, including clarity, sequence, and ambiguity in language. It also helps in evaluating the double-barreled measurements. It helps assess the length of questions and the ambiguity of words used in the questionnaire. The pilot study centers around the fact that it is crucial for opinions and feedback for survey questionnaires (J. Hair et al., 2017). It serves as a central process to assess the reliability of the instrument for further improvement (Drummond, 2017).

The pilot study was conducted with actual respondents, but there was a difference in opinion on the number of respondents for the pilot study. Some researchers suggest having 10 participants (Whitehead et al., 2016; Bowden et al., 2002; Drummond, 2017), whereas some suggest having 10% of the total population (Whitehead et al., 2016). The final decision must be guided by

constraints, mainly based on cost and time. The population's size and variability also affect the number selection for the pilot study.

The pilot study of this research involved 40 secondary school students to have a good number of respondents. The developed questionnaire was shared with the students from three different secondary schools in Perak state. The results were calculated using illustrative values of Cronbach's alpha scales, which measured the constructs. The constructs' values were higher than 0.7 (Taber, 2018), demonstrating the higher internal consistency of all the items included in the questionnaire. Table 4.1 illustrates the results of the pilot study. It can be observed that three constructs, including parents' influence, COE, and socio-economic status, possess higher values of Cronbach's alpha, determining greater reliability in the pilot study. However, the remaining seven constructs also have higher values than the standard value of 0.7, illustrating the reliable results of the pilot study.

Table 4.1

Reliability Results of Pilot-Study

Constructs	Items	Cronbach's Alpha
All Constructs Combined	78	0.857
Motivation towards Higher education	09	0.783
Parents Influence	11	0.933
Peer Influence	11	0.882
Career expectancy Outcome	10	0.908
Socio-economic Status	09	0.948
Attitude towards Higher	07	0.891

education		
Subjective Norms	06	0.875
Perceived Behaviour Control	06	0.918
Academic Achievement	03	0.837
Behavioural Intention towards Higher education	05	0.919

4.3 Response Rate

In the current study, all questionnaires were online, and responses were collected through the online platform Google Forms. Online responses were preferred because the data was collected post-COVID-19. During this period, most schools were reluctant to give access to their students, whereas the Malaysian Ministry of Education also proposed to follow the precautionary measures regarding COVID-19 prevention protocols. Considering these limitations, the data collection process was conducted through online questionnaires. Secondly, online data collection provides easy access for respondents and minimizes non-response chances. In the online questionnaire, the field can be marked as "required," which compels the respondents to answer the question before proceeding. The exact process was embraced for this study to get the maximum response rate from the questionnaires. The responses to the questionnaire were rejected on two bases. The first was for those who disagreed with the consent statement and withdrew to give their responses. The other one was based on gender, as the current study only focuses on the data collection from

male students, so the responses from female respondents were not considered. The details of the responses are given in the table below.

Table 4.2

Response Rate

Received	Questionnaires Rejected based on		Usable	Response rate
	Consent	Gender		
476	04	61	411	86.3%

4.2. Quality of Data

Data quality assurance is one of the crucial parts of research. It involves the processes for data screening, cleaning, and verification (Arndt et al., 2022). These processes help identify anomalies and inconsistencies in the data that impact the validity and reliability of study findings (Odom & Henson, 2002). Thus, it is essential to address these problems to have reliable and valid data for analysis.

In this context, the following measures were used to ensure the accuracy of the data collection for this study. The first step involved the creation of an adequate questionnaire using A4 paper, with particular attention given to the data entry technique. The second step was to comprehensively check the errors to ensure that there were no potential typos or other errors during the data entry process. Thirdly, the questionnaire was thoroughly rechecked for the final assessment and dissemination to the respondents.

These assessment steps led to the data collection based on the improved questionnaire version. An online survey using Google Forms was developed to collect the data that helped assess the diverse nature of respondents and increase the reach of individuals. The online method was very helpful in ensuring the collection of high-quality data, thus enhancing the credibility of the final data. In addition, the questionnaire was also evaluated with a small group of participants to ensure data accuracy and quality. The collected samples were tested in the questionnaire to determine the potential structural, functional, and design concerns. The participants were given clear instructions and directions for responding to the questions. The contact information was also shared with the participants to help them with any issues while filling out and submitting their responses. The study also employed data validation techniques to reduce errors further and ensure the online questionnaire's accuracy. This assessment proved helpful for ensuring that participants have not entered any inaccurate, invalid, or incorrect information, such as non-numeric characters in a numeric box.

In the next phase, it was necessary to ensure the correctness during data collection. For this purpose, most of the responses were collected in the school's computer labs in the presence of a teacher or researcher during the data collection. It helped clear the students' ambiguities while filling in their responses.

The use of the native language was to ensure a better understanding of the questions and minimize errors in the answers. In this context, the translated questionnaire version helped reduce mistakes during the data collection.

This thorough preparation for both paper and online questionnaires was to ensure high data accuracy and quality standards. It enhanced the credibility of the explorations' conclusions, thus increasing the significance of the study for future practice and intervention in understanding the factors that can increase male participation in higher education institutions.

In addition to the above-discussed precautionary measures in questionnaire formation and data collection, assessing the final data for further refinement is critically essential. For this purpose, the following steps were undertaken to have more reliable and comprehensive data for the PLS-SEM analysis.

4.3 Preparation of Data

Data preparation identifies the final data for missing values, linearity, outliers, processing, and distribution. It is a crucial step that must be taken to recognize and rectify irrational or incomplete responses in the questionnaire to comply with the data following the statistical analysis to be performed (Barreto, 2018). During this phase, several processes were executed to increase the precision and accuracy of the obtained data (Bougie & Sekaran, 2019). In this

context, the procedures observed to improve the dataset are discussed in the later sections below.

4.3.1 Missing data

Verifying that there is no missing value in the responses or final data values is essential to enhance the data quality (Young et al., 2011). This process enhances the reliability of the data set, thus increasing the credibility of the analysis. In this context, inspecting data for any missing values was essential. In this study, Smart PLS software has been employed, which tends to replace missing values with the mean/column averages of the factors (Kock, 2013). Nonetheless, as a preventive measure, the master sheet of the data set was examined, and no missing values were discovered.

4.3.2 Data Processing

Data processing is a preliminary stage before assessing data distribution, and it involves extracting information from raw data. It helps assess the dependable results from data analysis (Cohen et al., 2002). In this context, the current study deployed processing techniques, including data coding and transcribing, using the statistical tool SPSS to ensure more consistent data for final statistical analysis.

4.3.3 Data Distribution

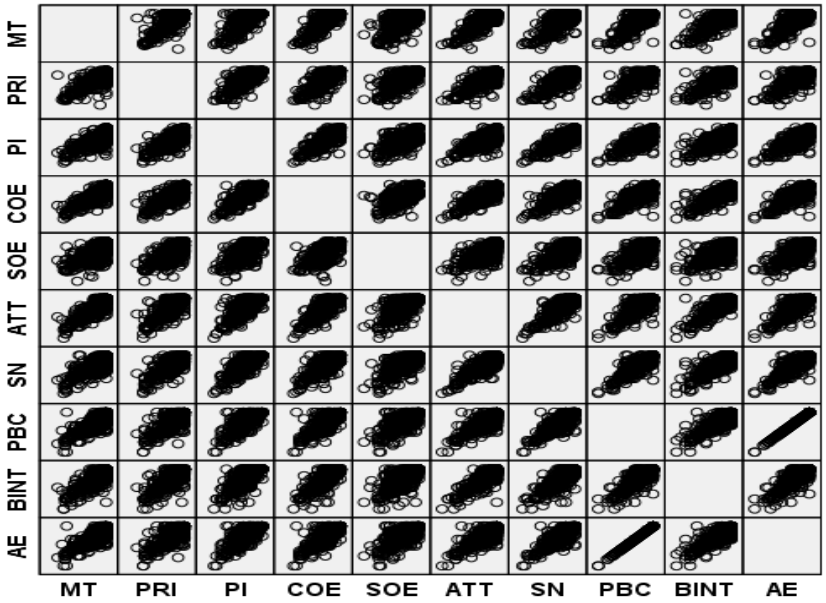
The study employed PLS-SEM, for which a normal data distribution assumption is not required (J F Hair et al., 2013). PLS-SEM can manage non-normal data by utilizing non-parametric bootstrapping, implying that the study sample accurately represents the study population (Joseph F Hair et al., 2010; Leguina, 2015). In this context, the final dataset was examined using PLS-SEM, a non-parametric test on Smart PLS with 5000 subsamples; therefore, data normality was not required (J. Hair et al., 2021).

4.3.4 Outliers

The measure of Mahalanobis distance (D2) is used to identify the outliers in the study. A D^2 value with p-values below.001 ($p < .001$) indicates that the case is an outlier (Kline, 2015). With SPSS 20, Mahalanobis distance was computed utilizing regression, and thus, the p-values for chi-square cumulative distribution were calculated using these scores. The results of Mahalanobois for the data set revealed 04 outliers with p-values less than .001 (Tabachnick & Fidell, 2013). These outliers were eliminated, putting a final sample size of 411.

4.3.5 Linearity Assessment

Linearity assessment refers to evaluating or analyzing linearity among the factors or variables. The two constructs are assumed to have a linear relationship when linearity shows a straight line. Linearity assessment can be done with bivariate scatterplots, with data points arranged in an oval shape (D. L. Hahs-Vaughn, 2016). There is no evidence of a non-linear or curved relationship, as revealed by the scatterplots, which are in the shape of an oval, as seen in the scatterplot matrix in Figure 4.1. As a result, the assumption of linearity has been verified.



MT: Motivation, PRI: Parents Influence, PI: Peer Influence, COE: Career Expectancy Outcome, SOE: Socioeconomic Status, ATT: Attitude, SN Subjective Norms, PBC: Perceived Behavior Control, BINT: Behavioral Intention, AE: Academic Achievement

Figure 4.1 Matrix of Bivariate Scatter Plot

4.4 Respondents Profile

The demographics provide insights into the respondents' profiles in this study. The researcher used SPSS 21 to profile the sample demographically and perform a descriptive statistical analysis of the data gathered. The demographic table offers essential insights into the characteristics of the respondents who participated in the survey. These characteristics are significant for the process of data analysis. Details of demographics are displayed in Table 4.2, reflecting the particulars of gender, age, ethnicity, the current level of study, and hometown. Upon examination of the table, it is evident that the study focused primarily on male participants, as all 411 respondents were of this gender. All respondents were male, as the male student population was the primary unit of analysis for this study; the sample was designed to collect information from male students. Hence, all the respondents for the survey were male students, complying with 100% male respondents in the sample.

The ethnicity of respondents who participated in the study showed that the majority of them were Malay 198 (48%), followed by Chinese 137 (33%) and Indian 70 (17%). The "Other" category, which includes people of various ethnic backgrounds, comprised a lesser fraction of the sample than the other categories, accounting for 06(1.4%) of the total. Understanding the ethnic distribution of the respondents is crucial to contextualizing the study's findings within the cultural and social background of the investigated region or population. Additionally,

these results are consistent with the ethnic composition of Malaysia's population, where Malay is the most prevalent, followed by Chinese and Indian.

The data demonstrates that the majority of participants, 234 (56.7%), were at the SPM level, considering the present level of study that the respondents had reached. This lends credence to the notion that a sizeable number of the responders were most likely adolescents enrolled in high school. In addition, 118 (28.7%) people who responded had completed their STPM education, equivalent to pre-university education. The remaining 59 (14.3%) respondents were students at the UPSR level, showing a decreased proportion of elementary school pupils. When attempting to make sense of the research findings, it is essential to consider the educational backgrounds of the people who participated in the study, as the respondents' varying levels of education represent the participants' contribution to diverse educational stages.

The demographic table also includes information about the respondents' hometowns. Selangor had the highest number of responders, accounting for 70 (17%) participants in the sample. Following Selangor, Kedah and Perak had higher proportions of respondents, accounting for 92(23%) and 90(22%) participants in the sample, respectively. Pulau Penang and Kuala Lumpur each had 65(16%) and 51(12%) respondents. Pahang, Kelantan, Johor, and Sabah had lower shares of respondents than the other states. The distribution of these numbers corresponds to actual data based on the number of students studying in

secondary schools in each of the respective states. The data on states were selected based on the number of students enrolled in each state; therefore, the states with a more significant proportion of students had a higher representation in the overall sample of the study. This information about regional distribution serves as an understanding for contextualizing the results in various regions.

Overall, the demographics of the respondents suggest that the sample is diverse and reflective of Malaysians, with similar distributions across major demographic characteristics.

Table 4.3

Respondents Profile

Demographic Characteristics		Number of respondents	Percentage
Gender			
	Male	411	100
Age			
	Below 18	295	72
	18	82	20
	19 and Above	34	8.0
Ethnicity			
	Malay	198	48
	Chinese	137	33
	Indian	70	17
	Other	06	1.4
Current level of study			
	SPM	234	56.9
	STPM	118	28.7
	UPSR	59	14.3

Hometown			
	Selangor	70	17
	Kuala Lumpur	51	12
	Perak	90	22
	Kedah	92	23
	Pulau Penang	65	16
	Pahang	12	3.0
	Kelantan	15	3.5
	Johor	14	3.3
	Sabah	1	.2

4.5 Measurement Model Analysis

A measurement model is an integral part of quantitative research. It serves as a basis for assessing the validation of indicators used in the data (Brod et al., 2009). In this context, evaluating the variables or constructs for consistency and reliability is essential, setting an acceptable basis for the structural analysis (Sass & Schmitt, 2013). The measurement model achieves this by operationalizing abstract notions into measurable indicators. The model also assesses that the required constructs are measured precisely by ensuring consistent measurements based on the respective indicators (Mohajan & others, 2017). These findings help develop the foundation essential for appropriately deploying structural models for hypothesis testing. The measurement model evaluates this by ensuring the applicability of both the data and the data-gathering tool.

In the current study, the measurement model serves as a process of indicator validation for measuring latent variables with the help of Confirmatory Factor Analysis (CFA) (Awang et al., 2015). It serves as a suitable basis for assessing measurement models in comparison to Exploratory Factor Analysis (EFA) because established scales are used in the study. It equally facilitated the assessment of the measurement theory of the current study.

It is recommended to use Smart PLS 3.0 to conduct the measurement model in PLS analysis. It is a helpful tool for evaluating the measurement path model for the considered construct and framework (Wong, 2016). In this context, several assessments were conducted using PLS analysis on SMART PLS 3.0, i.e., composite reliability, convergent validity, discriminant validity, indicator reliability, explanation of variance through R square, and goodness of fit of the research model. These tests helped establish a reliable measurement model. Additionally, these served as a basis for confirming the measurement model's validity and appropriately apprehending the underlying constructs being assessed.

Figure 4.2 depicts the measurement model utilized in this investigation, validated and reliable using the abovementioned tests. Overall, the measuring model crucially contributed to this study in accurately assessing that constructs are being gauged accurately.

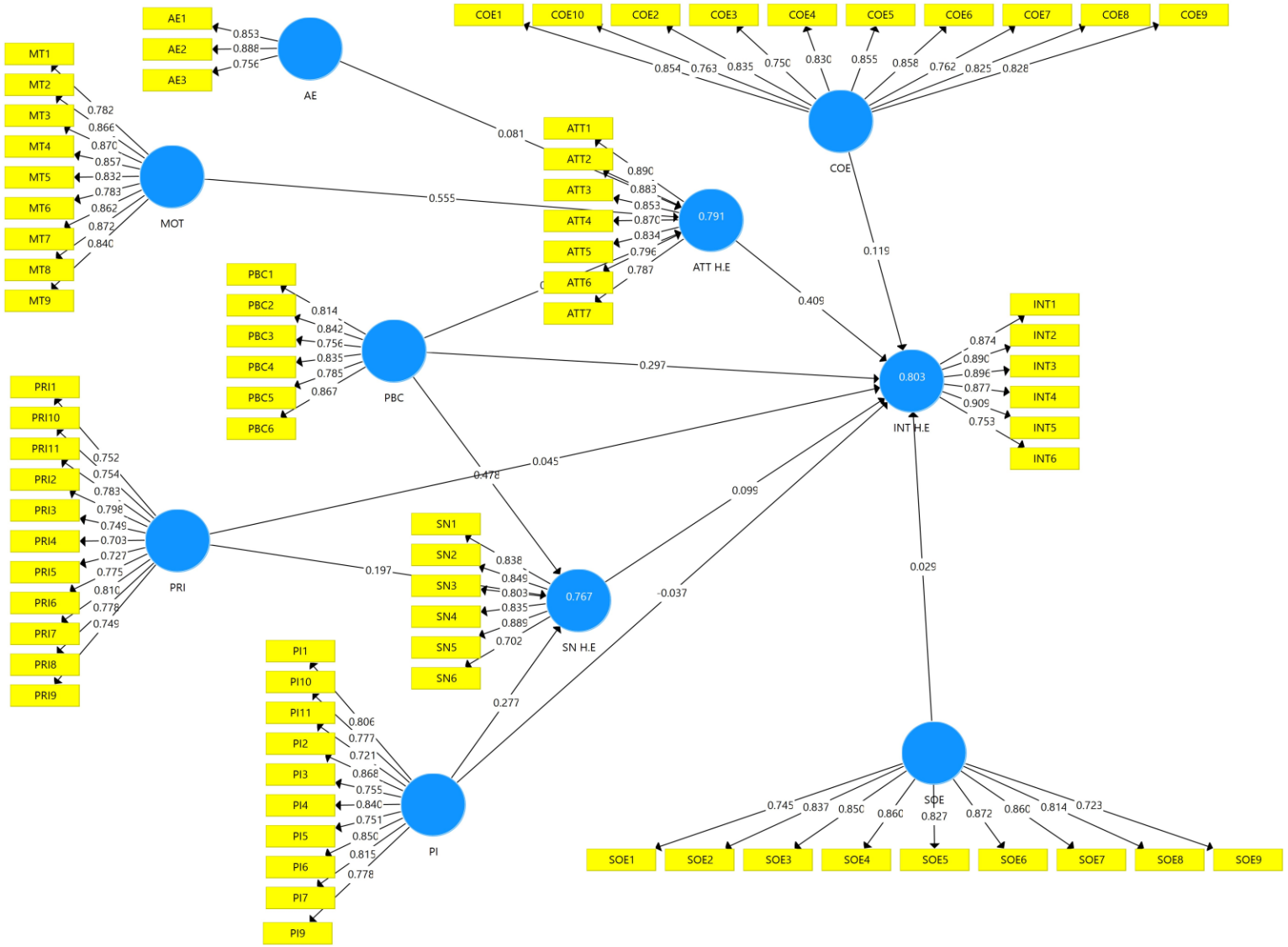


Figure 4.2 Measurement Model of Study (PLS Algorithm)

4.5.1 Construct Reliability

In a measurement model, checking construct validity is an essential component. It is important to check if a group of items measures similarly each time. It indicates if the items in a group are associated and jointly quantify the pertinent construct accurately. In this context, construct validity portrays how the multiple-scale items reflect what they strive to measure (W. W. Chin, 2009). It helps comprehend whether the items genuinely measure the relevant construct.

The two commonly used strategies for assessing construct reliability are Cronbach's alpha and composite reliability (CR). Cronbach's alpha is an established degree of internal consistency used to decide scale dependability. It measures the internal consistency of a set of items as a criterion for establishing construct reliability. A higher alpha coefficient value determines the greater internal consistency and reliability of items measuring the construct (Bonett & Wright, 2015). Studies that have employed PLS-SEM suggest that values of Cronbach's Alpha should be at least 0.70 to show that the construct measures are dependable (Purwanto, 2021)

The CR is a more pertinent measure to evaluate the construct reliability. It calculates the latent constructs by considering measurement error variance and systematic variance (W. W. Chin, 2009; Heale & Twycross, 2015). It aims to assess that the observed variables (measurement items) consistently measure the

same underlying concept. While composite reliability is a helpful index for measuring scale reliability, PLS-SEM research suggests that constructs with composite values of 0.70 and higher are considered reliable (Leguina, 2015).

The current study has deployed both Cronbach's alpha and composite reliability to assess the construct reliability of the model. The data in Table 4.4 displays the Cronbach's alpha and composite reliability scores for each construct measured. It can be illustrated that some of the constructs, including intention toward higher education, PBC, and COE, possess higher internal consistency with values of Cronbach Alpha and CR near 0.9. At the same time, all the other constructs have shown values higher than 0.70 for both Cronbach's Alpha and CR measures. It means the measurement model shows strong internal consistency and reliability, as the items reliably gauge respective constructs.

Table 4.4

Construct Reliability

Constructs	Cronbach Alpha	Composite Reliability
Motivation	0.848	0.848
Academic Achievement	0.783	0.783
Attitude	0.833	0.833
Parents Influence	0.818	0.818
Peer Influence	0.875	0.875
Career Expectancy	0.882	0.882
Outcome Socioeconomic Status	0.819	0.819

Subjective Norms	0.837	0.837
Perceived Behavioral Control	0.899	0.899
Intention to pursue H.E.	0.808	0.808

4.5.2 Construct Validity

Construct validity refers to how well a test measures what it claims to measure. A model has good construct validity if it accurately reflects the examined concept or idea. It investigates the measurement's underlying meaning and interpretation, ensuring it matches the theoretical concept to be assessed (MacKenzie et al., 2011). Establishing construct validity entails thoroughly inspecting each component considered in a measurement model, including the items, their linkages, and their relevance to the larger theoretical framework.

Researchers often use convergent and discriminant validity tests to assess the construct validity. Convergent validity evaluates how closely construct indicators consider the same underlying construct (Joseph F Hair et al., 2006). Discriminant validity tests determine if various constructs of the model are unique and do not measure the same thing (Henseler et al., 2015). This study conducted these tests, and the results are discussed below.

4.5.3 Convergent Validity

Convergent validity is a vital measure in assessing construct validity. It examines how various latent construct indicators or elements measure the same underlying construct. It is crucial to determine the reliability and consistency of a measure (Carlson & Herdman, 2012).

One commonly used method for evaluating convergent validity is Average Variance Extracted (AVE). AVE represents the average amount of variance explained in the measurement items compared to the total variance of the construct. It calculates what portion of the variability in the observable variables may be due to the underlying construct. The AVE value ranges from 0 to 1, with higher numbers suggesting more substantial convergent validity. F. Hair Jr et al. (2014) define an adequate level of convergent validity as an AVE value greater than or equal to 0.50, considered an acceptable demonstration of convergent validity. Table 4.5 shows the values of AVE for each construct in this study.

Table 4.5

Convergent Validity (AVE)

Constructs	Average Variance Extracted (AVE)
Motivation	0.696
Academic Achievement	0.716
Attitude	0.558
Parents Influence	0.702

Peer Influence	0.707
Career Expectancy Outcome	0.649
Socioeconomic Status	0.513
Subjective Norms	0.553
Perceived Behavioral Control	0.623
Intention to pursue H.E.	0.631

The results in Table 4.5 show the AVE of ten constructs used in this study. It illustrates that the measurement factors precisely reflect the intended construct because the value of AVE for every construct is above the given threshold of 0.5. The findings demonstrate that a particular construct measures the same underlying notion clearly and consistently, thus conforming to this study's requirement of convergent validity.

4.5.4 Discriminant Validity

Discriminant validity is a crucial component for evaluating a measurement model. It ensures that the constructs within the model are unique and do not simply measure the other underlying construct (Rönkkö & Cho, 2022). It is an assessment that determines whether it can accurately distinguish between multiple constructs or constructs theoretically intended to be separate from each other. (Cheung & Wang, 2017). In a PLS model, studies typically utilize two ways to establish discriminant validity: the Fornell-Larcker criterion and the Heterotrait-monotrait ratio of correlations (HTMT) (Ab Hamid et al., 2017). The Fornell-

Larcker criterion determines that the variance shared by two constructs is less than the variance of either construct (Henseler et al., 2015). The HTMT ratio measures how much the correlation between two constructs is stronger than the correlation between each construct. In the case of the HTMT ratio, it is recommended to have a value less than 0.85 to hold the basis of discriminant validity (Rasoolimanesh, 2022).

In this study, the measures of discriminant validity were assessed using both tools, including the HTMT ratio and the Fornell-Larcker criterion. The results of the Fornell-Larcker criterion results are shown in Table 4.6. The findings demonstrate that the square root of the AVE for each construct (bold-italic) is larger than the inter-construct correlations, thus complying with the condition of discriminant validity (Cheung & Wang, 2017). Additionally, the findings of the HTMT ratio are presented in Table 4.7. The results clearly illustrate that the values are below the limit of 0.85, confirming that discriminant validity has also been attained using this method (Rasoolimanesh, 2022).

The combination of the Fornell-Larcker criterion and the HTMT ratio provides a full assessment of the distinctiveness of constructs in the model. The deployment of both tests enhances the authenticity of theoretically identical constructs. In this context, the model has been assessed for all the constructs, including motivation, academic achievement, attitude, parents' influence, peer influence, PBC, subjective norms, and intention of secondary school male

students to pursue higher education. The results presented in Tables 4.6 and 4.7 illustrate that all the constructs have met the standards of discriminant validity, forming the psychometric properties in the measurement model of this study.

Table 4.6

Discriminant Validity–Fornell Larker Criterion

Constructs	AE	ATT H.E.	COE	INT H.E.	MOT	PBC	PI	PRI	SN H.E.	SOE
AE	**0.834**									
ATT H.E.	0.261	**0.846**								
COE	0.202	0.564	**0.747**							
INT H.E.	0.227	0.567	0.515	**0.838**						
MOT	0.198	0.457	0.440	0.615	**0.841**					
PBC	0.202	0.617	0.585	0.534	0.694	**0.806**				
PI	0.164	0.580	0.421	0.742	0.665	0.761	**0.716**			
PRI	0.147	0.682	0.490	0.457	0.477	0.654	0.670	**0.744**		
SN H.E.	0.262	0.537	0.500	0.524	0.570	0.631	0.595	0.674	**0.789**	
SOE	0.267	0.494	0.564	0.681	0.637	0.706	0.657	0.676	0.632	**0.794**

Note: A.E= Academic Achievement, ATT H.E. = Attitude towards Higher Education, COE= Career Outcome Expectancy, INT H.E.= Intention to Pursue Higher education, MOT= Motivation, PBC= Perceived Behavioral Control, PI= Peer Influence, PRI= Parents Influence, SN H.E.= Subjective norms towards Higher Education, SOE= Socioeconomic Status

Table 4.7

Discriminant Validity – HTMT Criterion

Constructs	AE	ATT H.E.	COE	INT H.E.	MOT	PBC	PI	PRI	SN H.E.	SOE
AE										
ATT H.E.	**0.396**									
COE	0.255	**0.719**								
INT H.E.	0.271	0.583	**0.695**							
MOT	0.227	0.510	0.481	**0.670**						
PBC	0.237	0.591	0.572	0.625	**0.661**					
PI	0.205	0.440	0.508	0.524	0.518	**0.651**				
PRI	0.183	0.443	0.660	0.526	0.630	0.531	**0.647**			
SN H.E.	0.307	0.440	0.614	0.637	0.556	0.552	0.513	**0.679**		
SOE	0.320	0.550	0.438	0.549	0.488	0.585	0.529	0.542	**0.629**	

Note: A.E= Academic Achievement, ATT H.E.= Attitude towards Higher Education, COE= Career Outcome Expectancy, INT H.E.= Intention to Pursue Higher education, MOT= Motivation, PBC= Perceived Behavioral Control, PI= Peer Influence, PRI= Parents Influence, SN H.E.= Subjective norms towards Higher Education, SOE= Socioeconomic Status

4.5.5 Indicator Reliability: Factor Loading

Factor loading is a frequently used technique to assess indicator reliability. Indicator reliability pertains to the extent to which an indicator or item effectively measures the underlying construct or factor it is meant to represent (Pett et al., 2003). In this context, a correlation matrix is used to compute factor loading. It helps establish the degree of relationship between each item and the designated principal component. In order to have a strong indicator reliability, it is essential to have higher factor loading values. It indicates that the item is a strong and reliable indicator of the underlying construct. Conversely, low or non-significant factor loadings may suggest that the item is not a good representation of the construct and might need to be re-evaluated or excluded from the analysis. More significant factor loadings indicate a more robust relationship between the item and the underlying factor (B. Williams et al., 2010).

The results of factor loadings for the current study are presented in Table 4.8. These clearly illustrate that all indicators showed a value greater than 0.70, which aligns with the recommended value according to Hair Jr et al. (2017). These findings specify that all the indicators had a significant relationship with the underlying factor they intended to measure. The results support indicator reliability as a correct measure of the construct. Additionally, no items were excluded from the analysis based on their factor loadings, and the specific factor

loading values for all indicators are listed in Table 4.8. It determines that a latent variable can explain more than 50% of the variation in each indicator (F. Hair Jr et al., 2014).

Table 4.8

Factor Loadings

Constructs	Items	Loadings
Academic Achievement		
	AE 1	0.852
	AE 2	0.888
	AE 3	0.757
Motivation		
	MT 1	0.782
	MT 2	0.866
	MT 3	0.870
	MT 4	0.857
	MT 5	0.832
	MT 6	0.782
	MT 7	0.862
	MT 8	0.872
	MT 9	0.841
Attitude		
	ATT 1	0.894
	ATT 2	0.884
	ATT 3	0.855
	ATT 4	0.872
	ATT 5	0.833
	ATT 6	0.793
	ATT 7	0.786
Parents Influence		
	PRI 1	0.763
	PRI 2	0.728
	PRI 3	0.793
	PRI 4	0.812
	PRI 5	0.761
	PRI 6	0.726

	PRI 7	0.711
	PRI 8	0.719
	PRI 9	0.804
	PRI 10	0.768
	PRI 11	0.778
Peer Influence		
	PI 1	0.819
	PI 2	0.809
	PI 3	0.753
	PI 4	0.825
	PI 5	0.839
	PI 6	0.871
	PI 7	0.758
	PI 8	0.815
	PI 9	0.801
	PI 10	0.897
Career Expectancy Outcome		
	COE 1	0.861
	COE 2	0.893
	COE 3	0.849
	COE 4	0.753
	COE 5	0.843
	COE 6	0.854
	COE 7	0.855
	COE 8	0.853
	COE 9	0.837
	COE 10	0.818
Socioeconomic Status		
	SOE 1	0.756
	SOE 2	0.842
	SOE 3	0.855
	SOE 4	0.860
	SOE 5	0.835
	SOE 6	0.869
	SOE 7	0.857
	SOE 8	0.793
	SOE 9	0.830
Subjective Norms		
	SN 1	0.843

	SN 2	0.812
	SN 3	0.856
	SN 4	0.886
	SN 5	0.875
	SN 6	0.702
Perceived Behavior Control		
	PBC 1	0.807
	PBC 2	0.833
	PBC 3	0.675
	PBC 4	0.841
	PBC 5	0.798
	PBC 6	0.865
Intention to Pursue Higher Education		
	INT 1	0.879
	INT 2	0.891
	INT 3	0.904
	INT 4	0.878
	INT 5	0.898
	INT 6	0.897

4.5.7 Explanation of Variance

Explanation of variance is a statistical concept that is essential in a quantitative study. It refers to the degree to which the observed data points vary from the mean. Researchers generally prefer datasets with higher variance when planning hypothesis testing. Higher variance represents higher data quality, thus forming accurate predictions and robust conclusions. These can be effectively evaluated through the extent of variance observed in the dataset (Osborne & Waters, 2019).

In regression analysis, a standard method used to assess the explanation of variance is through the coefficient of determination, known as R-squared (R^2). R^2 quantifies the proportion of variability in the dependent variable that can be attributed to the independent variable(s). Essentially, it indicates how well the independent variable(s) can account for the variation in the dependent variable (LeBreton et al., 2013).

A higher R^2 value signifies a strong relationship between the independent and dependent variables, indicating that the independent variable(s) can better explain the observed variability in the dependent variable. In other words, a higher R^2 value suggests that the model better fits the data, as it can account for a more significant proportion of the variance in the outcome variable (Chicco et al., 2021). It is essential to interpret R^2 values appropriately, as they provide insights into the strength of the relationship between variables and the predictive power of the regression model.

According to Ozili (2023), an R^2 value above 0.10, or 10%, is significant in social science research; however, a value of 0.35, or 35%, is seen to be more suggestive of a successful model fit, indicating that the study satisfactorily explains a significant and essential amount of variance for hypothesis testing. The R^2 values for each dependent variable in the research framework are shown in Table 4.5 of this study, and they are all above the suggested cutoff point of 0.35. As a result, it can be illustarted that the current research has successfully

explained the data's variance and that the dataset is appropriate for additional hypothesis testing.

Table 4.9

Values of R Square

Constructs	R Square	R Square Adjusted
Attitude toward higher education	0.791	0.789
Intention to pursue higher education	0.803	0.800
Subjective Norms towards higher education	0.767	0.766

4.5.8 Model Fitness

The model fitness helps assess whether the data acquired and the instruments used for data collection are suitable for further analysis. It can be described as the extent to which the hypothesis formulated by the regression line explains the data gathered through surveys or other techniques. It assesses how well the proposed model fits the data points and captures the underlying relationships among variables (Barrett, 2007; Joseph F. Hair, Risher, et al., 2019).

In the present study, the assessment of model fitness was conducted using the SRMR (Standardized Root Mean Square Residual) statistical test. SRMR is frequently employed method by researchers using PLS-SEM (Afthanorhan, 2013; Cepeda-Carrion et al., 2019; Dash & Paul, 2021). This test gauges the average difference between the observed correlations and the correlations predicted by the

model. Lower SRMR values indicate a more favorable fit of the model to the data, suggesting that the proposed model closely aligns with the observed relationships among variables.

While deploying PLS-SEM, a fitness model is assessed using SRMR, and the value is recommended to be less than or equal to 0.08 (Joe F Hair Jr et al., 2017). Considering the above reference value, the SRMR score for this study is 0.04, indicating high model fitness (see Table 4.10). This result suggests that the data collected and the instruments used in the study are suitable for further analysis and hypothesis testing.

Furthermore, the result of SRMR for the current study signifies that the model's parameters are accurate and the relationships between the model's variables are well-defined. Therefore, based on the SRMR value, the current study has achieved model fitness for reliable results of hypothesis testing. For reference, Table 4.10 presents the SRMR value obtained in the analysis.

Table 4.10

The Model Fitness

	Saturated Model	**Estimated Model**
SRMR	0.046	0.052

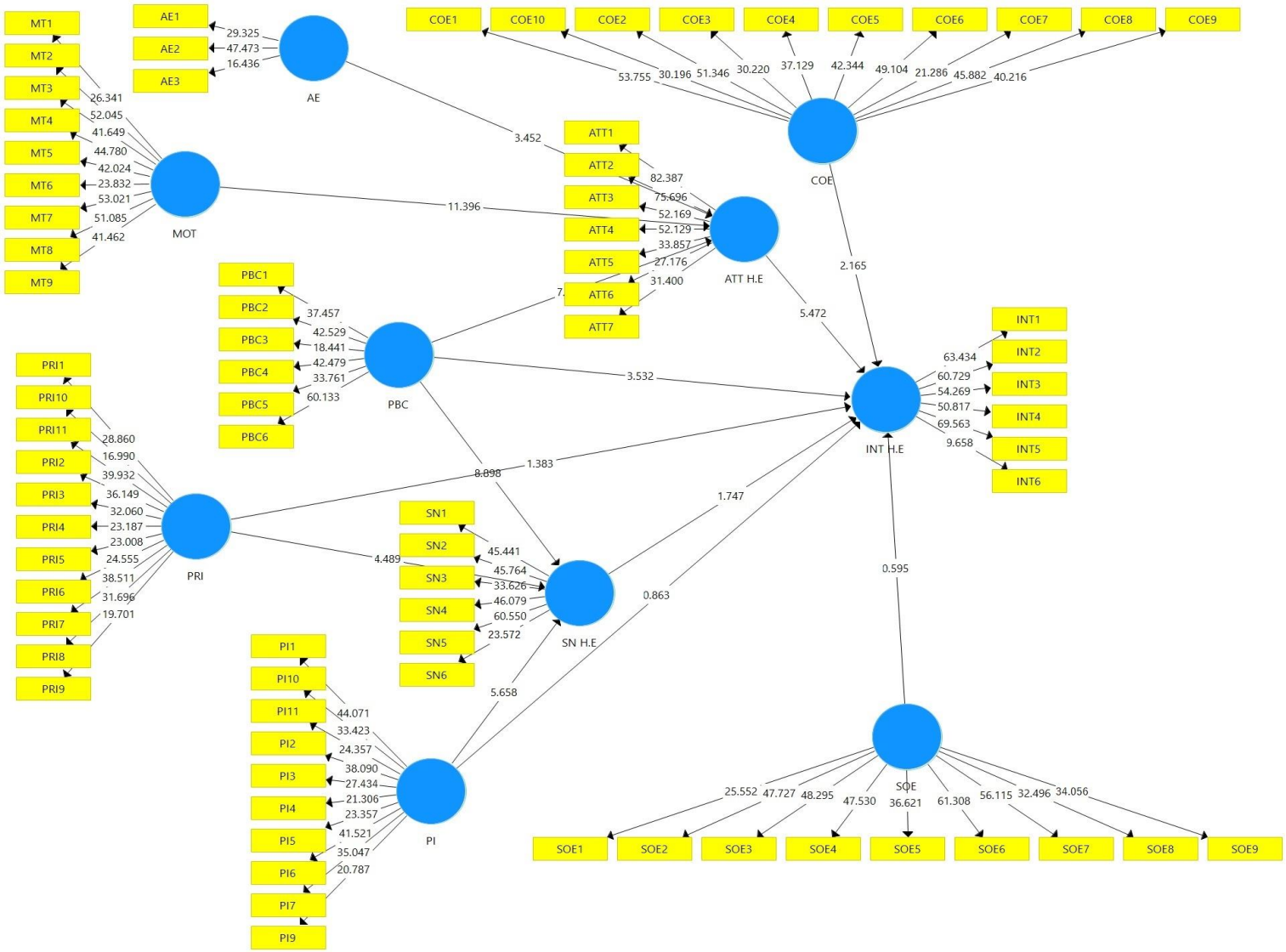


Figure 4.3 Structural Equation Modeling (PLS Algorithm)

4.6 Structural Model Assessment

The subsequent step in the study is to assess the proposed hypothesis. The structural path model determines the proposed hypotheses by evaluating whether the hypothesized relationships are supported or rejected. The proposed hypotheses are evaluated by examining the path coefficients and statistical significance of the correlations among the latent components. The structural model for the current investigation is shown in Figure 4.3 (above).

4.6.1 Hypothesis Testing

The present study employed SEM analysis, using a bootstrapping approach to create 5,000 sub-samples from the data to increase the results' reliability and robustness. By applying this resampling technique, the study sought to validate the relationships between variables and verify the statistical significance of the proposed hypotheses.

The hypotheses were considered statistically significant when their p-values were less than 0.05, indicating that the observed relationships were unlikely to be due to random chance. The details of the proposed hypothesis are given in table 4.11. Additionally, the results of the structural equation model, including the path coefficients, standard errors, and p-values, are presented in Table 4.12.

Table 4.11

Proposed Hypothesis

Hypothesis No	Hypothesis Statement
H1	There is a positive relationship between the motivation and the attitude of secondary school male students towards higher education.
H2	There is a positive relationship between academic achievement and the attitude of secondary school male students towards higher education.
H3	There is a positive relationship between parents' influence and the intention of secondary school male students to pursue higher education.
H4	There is a positive relationship between peer influence and the intention of secondary school male students to pursue higher education.
H5	There is a positive relationship between COE and secondary school male students' intention to pursue higher education.
H6	Higher socioeconomic status tends to have a positive relationship with the intention of secondary school male students' to pursue higher education.
H7	The attitude towards higher education is positively related to the intention of secondary school male students to pursue higher education.
H8	Subjective norms mediate the relationship between parents' influence and secondary school male students' intention to pursue higher education.
H9	Subjective norms mediate the relationship between peer influence and secondary school male students' intention to pursue higher education.
H10	There is a positive relationship between PBC and the intention of secondary school male students to pursue higher education.
H11	There is a positive relationship between PBC and the attitude of secondary school male students to pursue higher education.
H12	There is a positive relationship between PBC and subjective norms of secondary school male students to pursue higher education.

Table 4.12

Results of Hypothesis Testing

Hypothesis	Path Coefficient	Sample Mean (M)	T Statistics	P Values	Decision
H1: Motivation -> Attitude toward higher education	0.557	0.553	11.527	Less than 0.005	Supported
H2: Academic Achievement -> Attitude towards higher education	0.078	0.079	3.392	0.001	Supported
H3: Parents' Influence -> Intention to pursue higher education	0.051	0.052	1.322	0.186	Not Supported
H4: Peer Influence -> Intention to pursue higher education	-0.048	-0.047	1.047	0.295	Not Supported
H5: COE -> Intention to pursue higher education	0.128	0.130	2.139	0.033	Supported
H6: Socioeconomic Status -> Intention towards higher education	0.017	0.019	0.406	0.685	Not Supported
H7: Attitude towards higher education -> Intention to pursue higher education	0.391	0.389	5.574	Less than 0.005	Supported
H10: PBC -> Intention to pursue higher education	0.274	0.270	3.489	Less than 0.005	Supported
H11: PBC -> Attitude towards higher education	0.359	0.363	7.468	Less than 0.005	Supported
H12: PBC -> Subjective Norms	0.453	0.455	9.514	Less than 0.005	Supported

4.6.2 Hypothesis Testing Results

In this research study, multiple hypotheses were formulated to investigate the influence of various factors on the intention of male students to pursue higher education. To assess these hypotheses, statistical analyses involved calculating path coefficients, which allowed for examining the strength and direction of the relationships between the variables in the proposed model.

Additionally, t-tests were performed to evaluate the significance of the results. The t-tests helped determine whether the observed relationships between the factors and higher education attitudes, intentions, and behaviors were statistically significant.

The study aimed to provide empirical evidence to support or refute the formulated hypotheses using these statistical methods. The results obtained through this analysis offer valuable insights into the factors influencing male students' perusal of higher education intention and shed light on the complex dynamics involved in this phenomenon.

The study's findings show that motivation and academic achievement positively influence the attitude of male students to pursue higher education in Malaysia. Additionally, COE, attitude, and PBC have a positive relationship with male students' intention to pursue higher education. PBC shows a positive

relationship with the attitude and subjective norms of male students toward higher education.

Contrary to this, the study's results suggest that parents' influence, peer influence, and socioeconomic status are not predictors of the intention of male students to pursue higher education.

H1: The current study has developed the hypothesis that motivation positively and significantly influences the attitude toward higher education for secondary school male students. p-value less than 0.005 and T=11.527 support the acceptance of the hypothesis. A one-unit rise in motivation will result in a 55.7% increase in attitude toward higher education according to the path coefficient (β=0.557).

H2: In the current study, the hypothesis was formulated to investigate the impact of academic achievement on the attitude towards higher education for secondary school male students. The results indicate that this hypothesis is supported by a statistically significant p-value of 0.001 and a corresponding t-value of 3.392. The path coefficient, which quantifies the strength of the relationship, was found to be (β=0.078), implying that for every one-unit increase in academic achievement, there is a corresponding 7.8% increase in attitude toward higher education for male students.

H3: The current study has developed the hypothesis that parents' influence has a positive and significant impact on the intention of secondary school male students to pursue higher education. The hypothesis has been rejected based on the higher p-value, i.e., p=0.186. The results conclude that parents' influence does not significantly predict the intention of male students to pursue higher education.

H4: The current study has developed the hypothesis that peer influence has a positive and significant impact on the intention of secondary school male students to pursue higher education. The insignificance p-value of 0.295 indicates that the hypothesis has been rejected. It has been determined that peer influence does not influence the intention of male students to pursue higher education.

H5: In the current study, a hypothesis was formulated to investigate the impact of COE on the intention of secondary school male students to pursue higher education. The results indicate that this hypothesis is supported by a statistically significant p-value of 0.033 and a corresponding t-value of 2.139. The path coefficient, which quantifies the strength of the relationship, was found to be (β=0.128), implying that for every one-unit increase in COE, there is a corresponding 12.8% increase in the intention of male students to pursue higher education.

H6: The current study has developed the hypothesis that socioeconomic status positively and significantly influences the intention of secondary school male students to pursue higher education. The result states that higher socioeconomic status does not tend to affect the choice of male students to pursue higher education. The hypothesis has been rejected based on the higher P value, i.e., P=0.685. It has been determined that socioeconomic status does not predict the intention of male students to pursue higher education.

H7: In the current study, a hypothesis was formulated that attitude towards higher education has a positive and significant relationship with the intention of secondary school male students to pursue higher education. The results indicate that this hypothesis is supported by a statistically significant p-value of less than 0.005 and a corresponding t-value of 5.574. The path coefficient, which quantifies the strength of the relationship, was found to be (β=0.391), implying that for every one-unit increase in attitude toward higher education, there is a corresponding 13.9% increase in the intention of male students to pursue higher education.

H10: In the current study, a hypothesis was formulated that PBC towards higher education has a positive and significant relationship with the intention of secondary school male students to pursue higher education. The results indicate that this hypothesis is supported by a statistically significant p-value of less than 0.005 and a t-value of 3.489. The path coefficient, which quantifies the strength

of the relationship, was found to be (β=0.274), implying that for every one-unit increase in PBC towards higher education, there is a corresponding 27.4.% increase in the intention of male students to pursue higher education.

H11: The present study developed a hypothesis that PBC towards higher education has a positive and significant relationship with the attitude of secondary school male students to pursue higher education. The results indicate that this hypothesis is supported by a statistically significant p-value of less than 0.005 and a corresponding t-value of 7.468. The path coefficient, which quantifies the strength of the relationship, was found to be (β=0.359), implying that for every one-unit increase in PBC towards higher education, there is a corresponding 35.9.% increase in the intention of male students to pursue higher education.

H12: The present study developed a hypothesis that PBC towards higher education has a positive and significant relationship with the subjective norms of secondary school male students to pursue higher education. The results indicate that this hypothesis is supported by a statistically significant p-value of 0.000 and a corresponding t-value of 9.514. The path coefficient, which quantifies the strength of the relationship, was found to be (β=0.453), implying that for every one-unit increase in PBC towards higher education, there is a corresponding 45.3.% increase in the intention of male students to pursue higher education.

4.6.3 Mediating Effect

A mediator is an intermediate variable that helps explain the link between two other variables. It is essential for comprehending the underlying mechanisms or processes by which the exogenous variable (X) affects the endogenous variable (Y). In the mediation model proposed by Gunzler et al. (2013), a mediator (M) holds a pivotal position within the association between an exogenous variable (X) and an endogenous variable (Y). As illustrated in Figure 4.4, this relationship is delineated by the "a" path from X to M, the "b" path from M to Y, and the "c" path from X to Y.

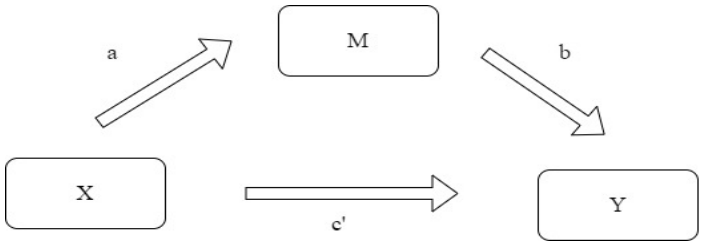


Figure 4.4 Basic Mediation Model

Literature previously suggested that mediation analysis requires a significant association between the independent variable (X) and the dependent variable (Y) in the absence of the mediator (M) (Harges, 1997). In this context, it was compulsory for mediation model to accomplish four conditions: 1) there should be a significant impact between exogenous variable (X) and endogenous variable (Y), 2) there should be a relationship between the exogenous variable

(X) and the mediator (M), 3) there should be a relationship between the mediator (M) and the endogenous variable (Y), and 4) the effect of the exogenous variable (X) reduces on the endogenous variable (Y) when the mediator (M) is included in the model (Harges, 1997).

It was a more complex composition for assessing mediation that was later revised to establish a more direct and plain mediation technique. In this context, Hayes (2009) and Carrión et al. (2017) determined that it is not essential to demonstrate a significant separate association between X and Y before testing for mediation. Instead, the emphasis can be on establishing mediation by assessing the indirect effect (*a x b*). The indirect impact gives enough information to evaluate the mediator's (M) mediating function in the link between X and Y.

The recent literature about mediation analysis suggests assessing the significance of the indirect effect (a x b) by using the bootstrap approach following the classification of the mediation effect according to the relevance and strength of the indirect effect (Carrión et al., 2017; F. Hair Jr et al., 2014; Gunzler et al., 2013; Hayes, 2009). The current study followed the abovementioned guidelines proposed in the literature to test mediation hypotheses, employing bootstrapping as the chosen method. The study employed bootstrapping, generating 5000 subsamples and establishing a 95% bias-corrected confidence interval to evaluate the significance of the indirect effects. This approach enabled us to acquire dependable path coefficients among

the constructs within the model. With the help of SmartPLS, mediation was examined by integrating all constructs and pathways into a unified model for analysis (Hair et al., 2017). Path coefficients represented the pathways "a" and "b" in the mediation model. After running the bootstrapping, the result of the indirect effect was reported by reporting a standard error (SE), the bootstrapping mean value, *t* value, and *p*-value (shown in Table 4.12).

The current study proposes that Subjective Norms (SN) serve as a moderating variable in the relationship between parents' influence and the intention of male students to pursue higher education. Additionally, this study posits that subjective norm (SN) mediated the relationship between peer influence and the intention of male students to pursue higher education. The study entails that subjective norms (SN) play a significant role in influencing the strength of this causal relationship.

More specifically, the current study hypothesizes that the relationship of parents' influence with the intention of male students to pursue higher education will have a strengthening effect on the impact of higher education Intention towards pursuing higher education. In other words, high levels of subjective norms (SN) are expected to intensify the association between an individual's intentions to pursue higher education, particularly for male students.

The first mediation was assessed with subjective norms between parents' influence and the intention of male students to pursue higher education. The results of the indirect path coefficient based on the second mediation were

assessed between peer influence and intent to pursue higher education by keeping mediating variable subjective norms. The results of the mediation mentioned above analysis are given in Table 4.13 below.

Table 4.13

Mediation Analysis

Hypothesis	Indirect Effects	*SE*	*t*-value	Confidence Interval	*p*-value	Decision
H8: PRI-> SN -> INT H.E.	0.032	0.015	2.018	[.009, .071]	0.035	Supported
H9: PI-> SN -> INT H.E.	0.044	0.018	2.426	[.014, .085]	0.015	Supported

Note: PRI: Parents Influence, SN: Subjective Norms, PI: Peer Influence, INT H.E.: Intention to Pursue Higher education, SE: Standard Error.
Sig***p*- value significant < 0.05

SmartPLS is a valuable tool for finding mediating effects, but it does not provide explicit instructions on 'classifying the type of mediation.' To address this restriction, the study conducted by Zhao et al. (2010) presents a complete analysis of mediation that includes five unique types: complimentary mediation, competitive mediation, indirect-only mediation, direct-only mediation, and "no-effect" mediation. These types are established using a typology that considers the relevance of indirect and direct impacts, as shown by positive and negative indicators. Figure 4.5 depicts this typology visually, assisting in classifying mediation types based on the observed effects in the analysis.

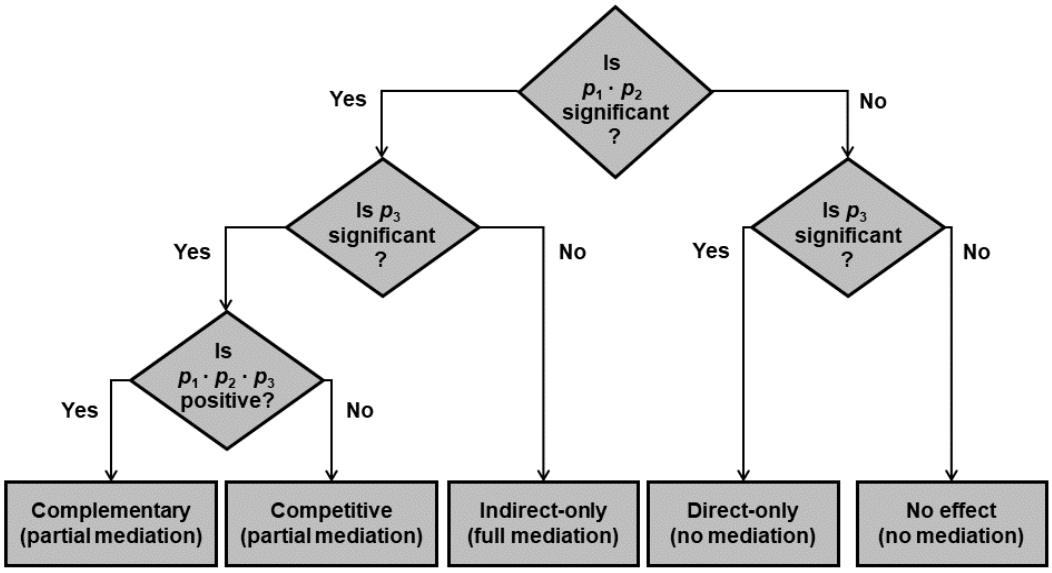


Figure 4.5 The Process of Assessing Mediation by Zhao et al. (2010)

Table 4.12 presents the results of the mediation analysis, where the study categorized the mediation types based on the earlier criteria. Remarkably, hypotheses H8 and H9 exhibited only indirect mediation, with statistically significant indirect effects. In contrast, the direct effects were found to be non-significant in both cases, aligning with the concept of complete mediation described by Zhao et al. (2010).

These findings support the acceptance of complete mediation in both H8 and H9. In a more precise context, the results can be interpreted as follows: For H8, it appears that parental influence positively affects the intention of male students to pursue higher education, but the inclusion of subjective norms fully mediates this positive influence. Similarly, for H9, it can be derived that peer influence also has a positive relationship with the intention of male students to

pursue higher education. Still, again, this positive relationship is fully mediated by including subjective norms.

In order to assess the strength of the mediation effect, studies refer to calculating the variance accounted for (VAF) ratios, which represent the proportion of the total effect explained by the mediation (Henseler et al., 2014; Wong, 2016). The VAF values indicate the extent to which the mediation explains the variance of the endogenous variable. However, recent literature, including Hair Jr et al. (2021b), Hair et al. (2021), and Carrión et al. (2017), suggest that VAF is not a compulsion where there is only indirect effect significance. There is a non-significant direct relation because it illustrates complete mediation between the considered factors; hence, this study followed the latest principle for assessing the mediation type for results assertion.

Table 4.14

Type of Mediation

Hypothesis	Effects	SE	*t-value*	Confidence Interval	Mediation type
H8: PRI-> SN -> INT H.E	Direct 0.052	0.038	1.322	[-.025, .127]	Indirect only
	Indirect 0.032	0.015	2.018	[.009, .071]	Full mediation
H9: PI-> SN -> INT H.E	Direct -0.048	0.046	1.047	[-.134, .046]	Indirect only
	Indirect 0.044	0.018	2.426	[.014, .085]	Full mediation

Note: PRI: Parents Influence, SN: Subjective Norms, PI: Peer Influence, INT H.E.: Intention to Pursue Higher education, SE: Standard Error.

These results provide meaningful insights into the mechanisms underlying the intention of secondary school male students to pursue higher education. By demonstrating the role of subjective norms as a mediator between parental and peer influences, this study highlights the significance of social factors in shaping educational aspirations. It underscores the importance of considering parental and peer influences with subjective norms to understand better and promote higher education intentions among male students.

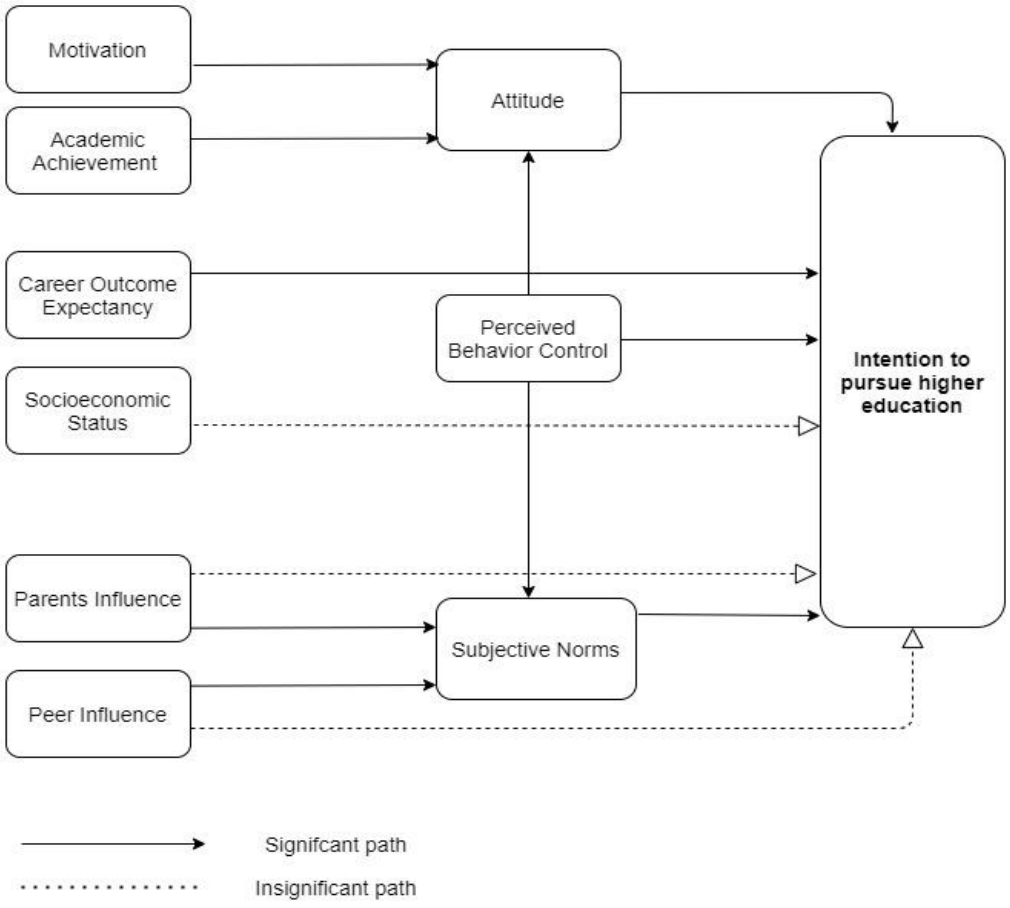


Figure 4.6 Structural Model with Significant and Insignificant Paths

Summary

This chapter includes a thorough assessment of the data gathered. The data was scrutinized and processed thoroughly, including the elimination of missing values, identification of outliers, and responses exhibiting a disengaged pattern characterized by uniformly consistent "straight-line" answers. After this meticulous data cleansing, statistical assumptions were assessed thoroughly. The evaluation confirmed the fulfillment of linearity, homoscedasticity, and collinearity assumptions. The data was then analyzed using the non-parametric tool SMARTPLS. The study utilized Partial Least Squares Structural Equation Modeling (PLS-SEM) to scrutinize the data and evaluate the theoretical model. The validation process of the measurement model encompassed assessing internal consistency reliability, convergent validity, and discriminant validity. Additionally, a comprehensive structural model analysis was conducted to test the hypotheses, involving a detailed examination of path coefficients, determination coefficients, effect size, and predictive relevance. In the final assessment of the 12 hypotheses formulated initially in the study, a noteworthy 09 hypotheses were supported through empirical analysis, indicating a significant alignment between the proposed theoretical framework and the observed data patterns.

In the subsequent chapter, the implications of the findings are explored, both in terms of their significance within the broader context of intention to

pursue higher education and their relevance specifically for male students in Malaysia. The discussion delves into the practical implications that can be drawn from the study's outcomes, shedding light on their potential implications for understanding and addressing the low participation of male students in Malaysian higher education institutions.

Additionally, recommendations are made for potential interventions or policies geared towards increasing male participation by discussing their intention to pursue higher education. Moreover, the discussion includes guidance for future research endeavors within this domain. Identifying unexplored avenues and potential gaps in the current study provides a comprehensive understanding of factors affecting male students' decisions factors contributing to pursuing higher education in Malaysia.

CHAPTER FIVE

CONCLUSION AND RECOMMENDATIONS

5.1 Introduction

The last chapter extensively discusses the results established from an empirical analysis performed on the articulated model of the study. Based on these results, the current chapter has a discussion that is explained based on significant and insignificant paths formed to assess the intention of male students toward higher education. The chapter starts with an introduction and then presents results based on several hypotheses that are in line with the research objectives and questions. The second part of the chapter includes discussions and theoretical suggestions followed by practical implications of the study. It helps to show how factors influence male students' plans to execute their higher studies.

Furthermore, this chapter also discusses how these findings can be used to develop policies and practices that increase male students' engagement in higher education institutions. It concludes by acknowledging the study's limitations and making recommendations for future research that can add to this study's findings. The goal is to provide a good overview of findings to help understand the elements influencing male students' decision to seek higher education.

5.2 Key Findings and Discussions

The study implied an overall variance of 70.7% in determining the intention of male students to pursue higher education, which is substantial for a study (Joseph F Hair Jr et al., 2017). In this context, 10 out of 12 hypotheses were supported, representing that most exogenous variables exhibit a significant relationship with their endogenous variables. The findings of the current study are illustrated in the following section. Table 5.1 depicts the research questions developed to achieve the study's objectives and the associated research findings aligned with these objectives and questions.

Table 5.1

Research Questions and Findings

Research Questions	Research Objectives	Hypothesis
RQ1. What is the relationship between individual factors (motivation, academic achievement) and the attitude of secondary school male students towards higher education in Malaysia?	**RO1**. To determine the relationship between individual factors (motivation, academic achievement) and the attitude of secondary school male students to pursue higher education in Malaysia.	H1: Motivation tends to have a significant positive relationship with the attitude of secondary school male students to pursue higher education. H2: Academic achievement tends to have a significant positive relationship with the attitude of secondary school male students to pursue higher education.
RQ2. What is the relationship between social factors (parents' influence, peer	**RO2**. To determine the relationship of social factors (parents' influence, peer	H3: Parents' influence has no significant relationship with the intention of secondary school male

influence) and the intention of secondary school male students to pursue higher education in Malaysia?	influence) on secondary school male students' intention to pursue higher education in Malaysia.	students to pursue higher education in Malaysia. H4: Peer influence has no significant relationship with the intention of secondary school male students to pursue higher education in Malaysia.
RQ3. What is the relationship between economic factors (career expectations, socioeconomic status) and the intention of secondary school male students to pursue higher education in Malaysia	**RO3.** To determine the relationship between economic factors (career expectations and socioeconomic status) and secondary school male students' intention to pursue higher education in Malaysia.	H5: COE has a positive significant relationship with the intention of secondary school male students to pursue higher education. H6: Socioeconomic status has no significant relationship with the intention of secondary school male students to pursue higher education in Malaysia.
RQ4. Does subjective norm mediate between parent, peer influence, and intention of secondary school male students to pursue higher education?	**RO4.** To determine the mediating role of subjective norms between parent, peer influence, and secondary school male students' intention to pursue higher education.	H8-H9: Subjective norms mediate the relationship between parents, peer influence, and secondary school male students' intention to pursue higher education in Malaysia.
RQ5. What is the relationship between the TPB determinants (attitude, subjective norms, and perceived behavioral control) and the intention of secondary school male students to pursue higher education in Malaysia?	**RO5.** To determine the relationship between the TPB determinants (attitude, subjective norms, and perceived behavioral control) and secondary school male students to pursue higher education in Malaysia.	H7: Attitude towards has a significant positive relationship with secondary school male students' intention to pursue higher education H10: PBC tends to have a significant positive relationship with secondary school male students' attitudes toward pursuing

	higher education. H11: PBC has a significant positive relationship with the attitude of secondary school male students towards higher education. H12: PBC has a significant positive relationship with subjective norms of secondary school male students to pursue higher education.

A methodically planned survey research technique was utilized using a quantitative approach to achieve these objectives. Furthermore, established measurement scales were used to assess the constructs under consideration. Rigorous steps were taken to ensure the validity of the instrument. Initially, the instrument underwent a content validation procedure that included input from subject matter experts. A comprehensive translation process was undergone to transform the questionnaire from English to Malay to ensure correctness.

The translated questionnaire was processed through pre-testing and pilot-testing. It ensured the accuracy of gathering the necessary information. After completing the questionnaire validation stages, it was employed in the fieldwork for final data collection.

The data was collected by assessing its quality and reliability for further analysis. The hypothesized relations between considered variables were

systematically tested using SEM-PLS (Structural Equation Modelling with Partial Least Squares).

The primary goal of this study was to analyze the underlying factors that influence male students' intentions to pursue higher education in Malaysia. A technique based on Structural Equation Modelling (SEM) analysis helped in understanding the factors that affect male students intent to pursue higher studies, together with a model based on the TPB. An adequate model was generated to understand the insights and findings from the obtained data, which provided a robust foundation for drawing comprehensive conclusions.

The empirical findings of this study showed noteworthy understanding. It was empirically proved that individual factors, including motivation and academic achievement, tend to have a significant positive relationship with the attitude towards higher education among the male students of Malaysia. Additionally, attitudes towards higher education tend to have a significant positive relationship with the intention of secondary school male students to pursue higher education.

Furthermore, the empirical results of social factors, including parental and peer influence, did not exhibit any significant relationship with the intention of male students to pursue higher education. The findings explain that these social factors, including parents' and peer influence, do not directly impact students' intentions toward higher studies. However, a convincing association was observed, as these two variables showed mediation in the presence of subjective

norms. It was a complete mediation as direct paths between the two insignificant social factors; nonetheless, it was observed to be significant through the indirect path, including subjective norms as a mediator when assessed with the intention of male students to pursue higher education.

Among the economic factors, COE is a fundamental factor contributing to this decision-making process of male students. The results highlighted a positive relationship with male students' intention to pursue higher education. Contrary to this, socioeconomic status had no significant relationship with male students' intention to pursue higher education in Malaysia. Further exploration involved analyzing the three immediate factors influencing the TPB. All three determinants—namely, attitude, subjective norms, and PBC—demonstrated significant positive relationships with the intention of male students to pursue higher education. These findings align with TPB's premise that PBC affects attitude and subjective norms in determining behavioral intention (Ajzen, 2011). This principle was validated in the current study, as PBC exhibited a significant and positive relationship with attitudes toward higher education and students' subjective norms in forming their intent toward higher education.

5.2.1 Motivation and Intention to Pursue Higher Education

The study found compelling empirical evidence that motivation tends to have a positive relationship with the attitude of male students to pursue higher education, which increases the chances of having greater intention to pursue

higher education. This relationship can be explained through different theoretical frameworks. The basic premise came from social cognitive theory (SCT) that an individual's cognitive factors, including motivation, are the driving force for developing attitude and belief (Bandura, 2001). The TPB also suggests that motivation creates the attitude and is determined by behavioral belief backed by individual characteristics, including value, emotion, or belief to have a particular intention for behavior (Ajzen, 2006). Thus, students motivated towards education may have a greater tendency to have a positive attitude towards higher education, increasing their chances to pursue higher education.

Moreover, the findings of the current study are consistent with existing literature that shows the positive relationship between the motivation and attitude of students to pursue higher education or excel in academics (Haggis & Pouget, 2002; Koludrovic & Ercegovac, 2017; Rizkallah & Seitz, 2017). Existing research has identified an association between motivation and attitude toward higher education, thus leading to increased chances to pursue higher education (Alam & Saadat, 2020; Erwananda & Usman, 2021). These findings highlight the importance of establishing strategies for increasing male students' motivation at secondary schools that will change favorable attitudes and nourish their intention to pursue higher education as an intervention measure. Furthermore, research has shown that people with higher academic motivation are more likely to participate in educational activities, showing their good educational attitude (Eidimtas & Juceviciene, 2014). This is critical because

positive educational attitudes lead to more opportunities for students to seek further education, increasing their likelihood of choosing a higher educational path (Alcaine, 2016). Thus, motivation gives male students the confidence to derive a positive attitude towards their studies, therefore harnessing their intent towards higher studies. Male students who exhibit motivational elements in their studies tend to have a rational reason for developing an attitude toward educational attainment (Wigfield & Cambria, 2010). Thus, motivation towards higher education drives male students towards their desired attitude of pursuing higher education after completing their schools in Malaysia. This evidence is prominent among secondary school male students of Malaysia thus emphasizing the need fo developing an intervention to motivate male students that will develop their attitude towards higher studies.

5.2.2 Academic Achievement and Intention to Pursue Higher Education

A compulsive finding from this study is that male students who perform well academically are more likely to develop a positive attitude toward higher studies. It raises their tendency to pursue higher education after completing secondary school education. This finding supports the belief that academic achievement can encourage students to seek educational opportunities. It also accentuates the importance of academic achievements in shaping the desires of male students (Józsa et al., 2022). The beneficial connotation behind this highlights how academic success promotes students' ability to pursue education once they finish school. This finding proves that academic excellence can

significantly influence individuals' educational aspirations. As students progress academically, their desire to continue their educational path strengthens. It reflects the notion of using educational accomplishments to grow and progress toward higher education (Mahdzar et al., 2022).

Academic achievements are compulsory in terms of achieving educational objectives. Academic achievement signifies students' hard work, personal development, and intellectual advancement along their educational pathway (Correa-Burrows et al., 2017). Students who align their educational goals are keen to have a better academic record (Quadir et al., 2022). In pursuit of this academic record, students usually accomplish the educational task more proficiently. It increases their chances of getting involved in their studies to achieve better academic results. These achievements tend to give them a greater understanding of the scope of educational goals in their lives (Harackiewicz et al., 2002). As students strive for achievement, their grades and performance reflect their constructive approach toward higher education (Moè et al., 2009). It essentially develops their positive attitude toward educational attainment, thus increasing their chances to pursue higher education (Jeno et al., 2018). A positive attitude towards higher studies sets the basis for the determination to achieve educational excellence and the intrinsic value placed on learning. According to Afzal & Rashid (2018), students who exhibit a greater tendency to learn tend to perform exceptionally well and achieve good grades, thus increasing the possibility of advancing their education. This relationship

elaborates the significance between academic achievements and the desire for continuing academic growth, thus forming the mindset of students to nurture their attitude towards higher education (Akey, 2006; Credé & Kuncel, 2008).

The aforementioned relationship between attitude and academic performance has significant implications for how students approach and pursue their studies. Students with more significant academic achievement typically have more favorable views toward learning. This mindset actively improves their educational experiences. It develops an approach that increases students' capabilities to accept challenges. It also creates the determination to deal with educational problems among the students (Bakar et al., 2010). These proactive acts promote an urge to have better academic knowledge and foster a desire to keep advancing in education (Verešová et al., 2016). In the same context, favorable educational attitudes potentially develop the desire to pursue higher education. This tendency represents a deliberate decision to embrace higher education as a transforming path. Students with good educational achievement tend to have positive attitudes towards education and are more likely to admire learning, perceiving higher education opportunities as better educational prospects (Lipnevich et al., 2016). This understanding prepares students to enthusiastically pursue academic objectives to increase their learning experiences, thus compelling them to progress in their educational pathways (Mahdavi et al., 2023).

The finding that academic achievement tends to have a positive effect on the attitude development of male students for higher education needs special attention as it urges the need to develop male students to be more learning-driven so that they can have a positive attitude towards future studies, particularly after passing the higher school. There is an understanding that male students tend to have lower representation in higher education because they have fewer academic achievements than female students (Bouhlila & Hentati, 2022; Buchmann & DiPrete, 2006). In this context, Carvalho (2016) and Marcenaro--Gutierrez et al. (2018) have already suggested that female dominance in higher education results from higher academic achievement in higher secondary school, leading their way to tertiary education. This validates the finding by ensuring that students require worthy academic achievements, particularly male students; this teaches the attitude toward higher education, thus enhancing their chances to pursue higher education. It necessitates an intervention to engage male students in academic learning activities that would raise their attention in educational learning, thereby improving their educational interest and increasing academic accomplishment and a favorable attitude towards higher education.

5.2.2 Career Outcome Expectancy and Intention to Pursue Higher Education

The empirical findings of this study revealed a strong and positive relationship between the COE and the intention of male students to pursue higher education. This positive relationship emphasizes how significantly perceived professional pathways influence male students' aspirations and encourage them to pursue further education. The research findings align with the fundamental assumptions of SCT. This theoretical framework by Albert Bandura advocates the influences on behavior as the composite interaction between a person's cognition and social environment (Bandura, 2001). The theory emphasizes the idea of outcome expectations as a critical part of social cognition, which describes how people anticipate the results of their activities, thus translating into specific behavior. In line with assumptions of SCT, the current study demonstrates career expectations as a predictor for male students who tend to foster positive outcome expectancies based on their education. Male students believe that higher education will lead to fulfilling professional opportunities. In this way, male students comprehend their job objectives predisposed to their expectations. These expectations are founded on the conviction that their educational efforts would produce desirable career outcomes (J. L.-H. Bowden et al., 2021; Nieuwoudt & Pedler, 2023).

Furthermore, the current study's findings illustrate that career expectations are a critical determinant that fosters the decision of male students regarding

higher education persuasion (Lent & Brown, 2019). In this way, male students logically develop their intentions to pursue higher education as a strategic tool for attaining their career ambitions, a process deeply affected by the interceding influence of career-related expectations (W. E. Donald et al., 2019). These expectations are firmly rooted in their assumption that their academic endeavors will result in lucrative and fulfilling professional paths and serve as an integral part of developing their determination to advance educational pursuits (Saadat & Sultana, 2023).

The importance of career prospects in influencing male students' choices to pursue higher education is multifaceted. The first consideration of male students is future employment chances that lead to financial security, thus forming their career prospects (Žaleniene & Pereira, 2021). In establishing these notions, societal expectations are crucial (Thébaud & Pedulla, 2016). These expectations are founded in orthodox notions of gender that tend to influence male students' decisions to enter employment earlier. Because historical conventions stipulate that men should be primary breadwinners, male students eagerly internalize this obligation (Schneider, 2012; Thébaud, 2010). The liability of societal expectations forces people, particularly males, to prioritize immediate income opportunities over long-term educational aspirations. It is primarily motivated by a desire to accomplish their perceived obligation of supporting their family. As a result, this increases the tendency of male students to drop out of school early, making them contribute to family finances while

negotiating the complexities of their expanding roles in a rapidly changing environment (Pang et al., 2016).

In this setting, male students frequently see higher education as a financial investment in their abilities to get employment and make money in the future (W. E. Donald et al., 2019). They look for paths that fit professions and disciplines with many predicted career prospects and lucrative incomes (Sharif et al., 2019; Wagner & Fard, 2009). A stimulus for them to commit to seeking additional education is the expectation of a lucrative and secure career trajectory (M. S. Ali & Jalal, 2018). In this context, the transition in the job market influences their decisions to have bright career prospects and better financial positions (Gunawan, 2012). This highlights the importance of employment possibilities that change with the job market and has a vital influence on the decision-making process of male participants regarding higher education (Nagaraj et al., 2017). Within the dynamic setting of an ever-changing economic landscape, individuals have a perceptible desire to pursue fresh pathways that promise increased and expedited earnings. This acquires determination from the understanding that evolving economic paradigms highlight the critical need for skill sets specifically adapted to the rapidly changing professional milieu. Because of the quick rate of technology advances and the dynamic transition of industries, a workforce capable of fluidly adapting to these transformations is required (Lim, 2018). In this regard, male students understand the advantages of pursuing a higher degree based on their expected

earnings (Leong & Sohail, 2006). They only perceive higher education as a powerful medium for gaining the necessary skills to navigate this ever-changing landscape, leading to good career prospects and earning opportunities. In this milieu, if the perceived expected returns are insufficient to justify the time and cost spent on higher education, they will enter the job market early to start their earnings (Samah et al., 2015). Male students purposefully position themselves to capitalize on the opportunities inherent in a job market characterized by constant swings by pursuing paths that match emerging sectors and cater to the evolving demands of specialized skills through market experience. Taking advantage of their knowledge of the rapidly shifting economic dynamics, male students realize that delaying entry into the workforce to invest in higher education requires a time-based commitment. This realization allows them to take advantage of their knowledge. When they devote time to gaining specialized skills through diplomas or early entry into the sector, they gain a competitive advantage that enables them to capture potentially rewarding chances sooner rather than later. The desire for immediate earning potential guides their decisions regarding their educational pursuits. The development of appropriate abilities well supports it. Consequently, male students' decisions regarding their educational paths are influenced by the requirement for early earning opportunities from the changing job market (Mustapha, 2017). They deliberately position themselves to take advantage of the job market shifts by matching their academic interests with industry demands, so displaying a nuanced knowledge of the symbiotic relationship between education, skill

acquisition, and capturing early earning possibilities (W. S. Chin et al., 2015; Wijerathna & Thisera, 2018). These crucial considerations justify the positive link, highlighting a composite interdependence in which male students' intents to further their academic goals are discernibly influenced by their perceptions of future opportunities and professional pathways. This raises a crucial concern regarding the changing times whereby jobs and job structures are changing rapidly. These changes demand that higher education institutions transform the curriculum and offerings of educational programs accordingly. This necessitates upgrading the higher education curricula and instilling targeted qualities and approaches among students. It will help transform graduates' outlooks to be more proactive and market-driven by inculcating skill-based knowledge. In order to prepare students for contemporary jobs, curricula should inculcate practical abilities relevant to the changing economy and technological interactions (Abd Rahman et al., 2020). These advancements can equip future graduates with employment opportunities. Additionally, students will be keen to pursue higher studies if they will find it useful to start their own earning avenues (Kamaruddin et al., 2021). This can be achieved by improving the contemporary knowledge and imparting required expertise to male students according to the demands of the current workplace markets. These initiatives will help in promoting a mindset in which male students realize higher education as a prospect to job markets.. As a result, this transformation will continue to improve their employment prospects, therefore promising a greater interest in seeking university education particularly in the Malaysian context.

5.2.3 Socioeconomic Status and Intention to Pursue Higher Education

The hypothesis of this study assessing the relationship between socioeconomic status and the intention of male students to pursue higher studies is not supported. This indicates that there is no significant relationship between higher socioeconomic status and intention to pursue higher education among male students in Malaysia. This result is inconsistent with previous studies, which mostly found that socioeconomic status is a critical determinant in deriving the educational preferences of the students (Darwish, 2016; Titus, 2006; Walpole, 2003); however, it supports the recent study conducted in the context of academic achievement and motivation (Aggarwal & Lawson-Smith, 2023; Gobena, 2018). Another study discovered that socioeconomic status does not significantly predict academic outcomes in developing countries (Kim et al., 2019). The current research has demonstrated a similar illustration that socioeconomic status does not predict male students' intention to seek higher education. Socioeconomic status may not affect the students in Malaysia because low socioeconomic status can yield more resilience among the students, thus giving them more self-assurance to achieve high academic performance (O'Connell, 2019). Students from underprivileged backgrounds know that they only have one way that could make them flourish in society: through educational achievement. Hence, they became more inclined toward personal goals, aspirations, and academic performance (R. M. Ryan & Deci, 2020). This drives them to seek academic excellence as a means of self-improvement (J. L. Howard et al., 2021). This tendency of self-improvement motivates them to

produce results in academic pursuits, thus harnessing greater intent toward educational advancement(Guay, 2022).

5.2.4 TPB Determinants and Intention to Pursue Higher Education

The current study's findings have determined a positive relationship between the attitude and intention of male students to pursue higher education. It specifies the vital role of attitude in shaping educational intentions. This result corresponds to the long-held psychological theories, particularly those rooted in the TPB. The TPB posits that attitude is among the three proximal determinants that influence the intention to perform a specific behavior (Ajzen, 2006). According to the TPB, an individual's attitude primarily includes conviction and belief that shape how an individual acts in a specific environment, thus forming behavioral intention (Ajzen, 2012). Within this context, a favorable mindset can alter an individual's intention, influencing their action (Ajzen, 1991). According to TPB, having a positive attitude toward a particular behavior increases the likelihood of indulging in that behavior. The results of this study provide strong support for this notion in the context of male students seeking higher studies.

In this premise, the current study accentuates an explicit positive relationship between educational attitude and the intention of male students to pursue higher education. A positive educational attitude reflects openness to academic activities, enthusiasm for learning, and appreciation of the

transformative possibilities of advanced education (Crawford, 2016). It corresponds to an inner desire and passion for education, thus resulting in the development of a more promising mindset (K. Hillman, 2010; Malmström & Öqvist, 2018). Developing a positive attitude facilitates the internalization of educational values and aspirations that promote the intention of students to pursue higher education. It also signifies an individual's positive evaluation of the rewards, possibilities, and personal advancement associated with higher studies. This positive evaluation fosters a keen desire among male students to pursue higher education actively.

Positive attitudes develop the basis to establish and nurture the intent to perform a behavior (Friedkin, 2010). Students who believe in the importance and value of higher education are more likely to express strong intentions to follow this educational path (Saadat et al., 2022). The idea that attitude influences male students' decisions to pursue higher education, which results in personal development, improved employability, and intellectual enrichment, increases their desire to start the challenging journey of progressive education. Understanding the positive association between attitudes and intentions to pursue higher education has consequences for stakeholders in a broader educational context. By fostering an environment that nurtures positive attitudes of male students towards the transformative power of education, stakeholders can increase students' tendency to predict higher education as a rewarding choice and contribute to the enrichment of societies through a more educated and equitable workforce.

The research has identified that PBC has a significant positive relationship with the intention of male students to pursue higher education. This finding suggests that PBC plays a vital role in comprehending the impetus behind male students' pursuit of higher education. The construct of PBC is a well-established and empirically validated theoretical framework with a strong foundation within behavioral intentions. The theoretical foundation of PBC is established and rooted in the TPB, a widely recognized psychological model that explains the cognitive processes underlying human decision-making and behavior (Ajzen, 1985, 1991). PBC links individuals' cognitive evaluations and subsequent intent to engage in a given behavior (Knabe, 2012). PBC's theoretical foundation emphasizes the perceived ability to overcome barriers to carry out a particular action (Ajzen, 2011).

Likewise, in an educational context, PBC is an individual's assessment of their ability to navigate the complexity of pursuing educational control (Putit et al., 2022). In this context, PBC holds a relative significance in forming the educational intention of students. It is essential to direct students' objectives by demonstrating their belief in overcoming challenges and achieving educational advancement (Daniels et al., 2014). Moreover, the positive association between PBC and intention reflects an individual's belief in their ability to conduct successfully. Suppose a male student has a greater belief in having control over performing an act to continue studying. Under those circumstances, he can demonstrate greater confidence in overcoming prospective hurdles, fostering a stronger intention to achieve this educational path. As male students became

confident about their choice to continue their education, their manifestation of PBC became evident. PBC helps in developing a belief to deal with challenges, thus empowering their self-assurance, making it possible to decide in favor of pursuing higher education (Wang et al., 2021). This sense of empowerment increases their confidence in achieving their educational journey. Male students with a strong sense of PBC are more likely to believe they can adequately manage the demands of higher school. This empowerment pervades their cognitive processes, resulting in the formation of solid intentions to seek higher education as a method of achieving their personal and professional goals (Zolait, 2014).

The findings indicate that PBC effectively addresses actual circumstances; it provides essential insights into the genuine control male students can exercise in pursuing higher education. PBC demonstrates a careful approach that navigates students' academic path toward educational objectives. Male students with higher PBC recognize unanticipated challenges, upholding the dedication to pursuing progressive education (Imari et al., 2020).

While male students possess a certain degree of deliberate control in their educational pursuits, they encounter a complex environment in real-life scenarios that can significantly impact their decision-making processes (El Kharouf & Daoud, 2019b). These scenarios can be administrative difficulties or unforeseen personal problems that hinder their educational journey (N. Hillman & Robinson, 2016). To ease these barriers, PBC intervenes by providing a

perspective through which male students can assess their perceived abilities (Ajzen, 2002). As a result, it acts as an additional direct predictor of behavior. This suggests the importance of understanding male students' opinions of their abilities to overcome obstacles and pursue higher education opportunities. It helps to provide a comprehensive depiction of their intentions and subsequent behaviors.

Conclusively, male students should exhibit a high sense of PBC and firm conviction to overcome problems that will lead to proactive techniques for navigating them for educational advancement (Allam et al., 2018). This is especially true given the various obstacles that could derail their educational goals. This realization of PBC can help effectively manage the unplanned disruptions that could lead to developing their intent to achieve academic goals (Shariff et al., 2020). Ultimately, this understanding supports male students' decision to pursue higher education.

The results of the current study have demonstrated a positive relationship between PBC and the attitude of male students toward higher education. This empirical analysis has indicated a crucial association between PBC and the formation of attitudes among male students pursuing higher education. This relationship firmly authenticates the association between the control beliefs that determine individuals' educational goals by forming their attitudes toward higher education. This finding has a strong theoretical basis in one of the prominent and most frequently utilized psychological theories, namely the TRA

(Fishbein & Ajzen, 1975), which eventually evolved as the TPB (Ajzen, 1991). The TPB has demonstrated a primary framework for understanding the relationship between PBC and attitude (Ajzen, 1991). It explains that male students' attitude is driven by their beliefs in their abilities. These beliefs ascertain their struggle to overcome challenges and exert control over their educational path, thus shaping their overall attitude toward higher education (Ajzen, 2012). This study's findings support the fundamental notion of perceived control in developing a particular attitude to pursue behavior (Ajzen, 2002).

Individuals with more significant control beliefs can overcome possible obstacles and challenges (Ajzen, 2020). They regard themselves as competent because of their increased self-assurance through control beliefs. PBC is crucial in shaping the control belief through subjective assessment of their abilities (Kiriakidis, 2015). PBC enables people to see obstacles as surmountable rather than impossible. When people believe they can overcome hurdles, their attitude towards the behavior improves (T. Yang et al., 2021). These findings illustrate that PBC ensures a proactive mindset, affecting attitude formation by lowering the perception of unfavorable characteristics.

Students with stronger control beliefs are more likely to expect favorable educational results. These promising outcome expectations contribute to a positive attitude toward educational behavior. In this context, the current study explores that male student must have positive assessments to recognize their

academic capabilities. Once they acknowledge their educational abilities, these tend to influence their aptitudes positively, thus resulting in the formulation of positive attitudes leading towards encouraging connotation to pursue higher education. This evidence between PBC and the attitude of male students serves as a crucial finding by denoting the control of cognitive perceptions in shaping educational decisions. It ensures the empowerment and self-assurance of students and lays the ground for proactive educational pursuit. This finding implies a need to empower the male student to develop a positive attitude in their educational track that will align with their aspirations and control belief to achieve higher education proactively.

The empirical result of the current study concluded that Perceived Behavioral control (PBC) has a positive relationship with the subjective norms of male students' desire to pursue higher education. This evidence backs up the main idea behind the TPB, which says that PPB changes a person's subjective norms to make them do a certain thing (Ajzen, 1991). PBC assures a positive evaluation of their control over a behavior, whereas subjective norms are the evaluations of social perception for performing that behavior. In this context, the current study advocates that control beliefs drive an individual’s perception, as social acceptance approves. The study confirms that gaining more control over their perception of continuing higher education influences the subjective norms of male students. When students believe they have control over the means to handle the challenges associated with higher education, they are more

likely to get supportive feedback, encouragement, and endorsements from their social network (Gayatri et al., 2013). PBC helps male students form strong perceived control, promoting a network of positive subjective norms to propel their educational aspirations. This proves the essence of students' ability and control to navigate their academic goals, which are deeply linked to their expectations and influences from the social environment. Thus, male students who experience greater control in pursuing higher education are more confident in expressing their goals and making decisions. They are encouraged by a sense of control to uphold their beliefs and choices. This contributes to a more harmonious positioning of their aspirations and expectations of social networks to endorse their choice of higher education.

In order to exhibit proactive behavior towards educational attainment, male students' control belief aligns with their commitment and is thus endorsed by their social circle. If this social response is positive, it reinforces their notion that pursuing higher education is supported and achievable. This assures that male students' perception of control helps increase their engagement with social norms and expectations. Students use this engagement to evaluate their educational decisions (Cera & Furxhiu, 2017). This also indicated that male students' self-assurance enables them to engage with social influences without feeling pressured or coerced, fostering an environment where subjective norms are more positively aligned with their intentions.

In conclusion, the relationship between PBC and subjective norms highlights the self-motivated collaboration between personal beliefs and social support to empower male students, thus shaping their intention toward higher education. In this context, interventions can be devised to empower male students to overcome their barriers by forming stronger control beliefs while strengthening social network support from family, peers, and the community. This will ultimately increase the chances for male students to pursue their higher studies after completing secondary school education in Malaysia.

5.2.5 Mediation Effect of Subjective Norms between Parents' Influence and Intention to Pursue Higher Education

The findings of the current study demonstrate that the intention of male students to pursue higher education and the influence of their parents is mediated by subjective norms. While the results of the current study indicate no statistically significant direct relationship between parent influence and male students' intention to pursue higher education, it is critical to note that this relationship is mediated in the presence of subjective norms. Subjective norms are an individual's perceived social pressure from others, including social circle and community, that motivate them to behave in a specific manner (Ajzen, 2011). It refers to the acceptance or approval of a significant person or group for performing a particular task or act (Ham et al., 2015). This illustrates the crucial role of societal expectations in motivating male students to influence their parents' desire for higher education. The finding is consistent with some of the

studies conducted earlier in educational contexts, considering the significant mediation of subjective norms in forming the intention (Altawallbeh et al., 2015; Igwe et al., 2020; Tiwari & Bhat, 2017). While the existing literature is limited in assessing the mediation role of subjective norms between parents' influence and intention to pursue higher education however, it has been evaluated as a mediator for dependency intention (R.-D. Liu et al., 2019), entrepreneurial intention (Aga & Singh, 2022; Anderson, 2023) of students and results are concurrent to current studies.

The results validate that the belief in social approval and acceptance plays a critical role in shaping the association between parents' influence and intention to pursue higher education. Parents are considered to have a certain degree of impact on their child's decision, but with changing times, these dynamics have emerged differently (Fischer et al., 2019). Nowadays, male students are keen on their perception of social expectations. However, they are likely to take suggestions from their parents because they are the major role players in their lives (D. Hahs-Vaughn, 2004). Therefore, parents are expected to impact a child's choice to pursue higher education provided they receive support from their social network, community, or society. Positive parental influence contributes to a stronger intention to pursue higher education, but this intention is influenced by how male students perceive society's expectations and norms regarding education. These findings bring considerable implications for understanding and helping male students' educational aspirations. It designates

the importance of considering subjective norms while comprehending an intervention to foster male students' intentions toward higher education. This approach can also help integrate parental aspirations and societal expectations, promoting an encouraging environment for male students to seek higher education. The importance of subjective norms can empower social belief while strengthening parents' opinions, thus harnessing the stronger intent to pursue higher education among male students in Malaysia.

5.2.6 Mediation Effect of Subjective Norms between Peer Influence and Intention to Pursue Higher Education

According to the study's findings, subjective norms mediate between peer influence and the intention of male students to pursue higher education. It is critical to note that the results on peer influence do not provide significant evidence of a direct association with the intent of male students to achieve higher education. However, adding subjective norms as a mediating variable establishes an association between these two variables. According to TPB, subjective norms are beliefs based on perceived social acceptability (Ajzen, 2012). Based on this, the current finding suggests that while peer influence alone does not directly influence male students' higher education intentions, subjective norms are a bridge that makes this relationship evident. This mediated relationship signifies that when the influence of peers is strong, male students are more prone to perceiving higher societal expectations and support for their educational goals.

The subjective norms are critical determinants of TPB, and the current study's findings align with this theoretical premise validated by K. M. White et al. (2009), stating the crucial role of subjective norms in forming the intention. Similarly, Altawallbeh et al. (2015) demonstrated the mediated role of subjective norms while shaping the intentions of individuals. In this context, the current finding illustrates that male students' decision process for higher education is influenced by peers' encouragement and motivated by their assessment of whether society values and encourages such educational pursuits. Positive peer influence contributes to a keen intention to pursue higher education, and this intent is shaped by how male students perceive the social expectations and norms tied to education. These findings have profound implications for understanding and fostering the educational ambitions of male students. Interventions targeting students' aspirations for higher education should consider the essential role of subjective norms in mediating the gap between peer pressure and male students' intentions. This deliberate approach can harmonize the aspirations of peers with societal expectations, creating an environment conducive for male students to embark on their higher education journeys with determination.

5.3 Theoretical Implications

The study examines the factors influencing the intention of male students to pursue higher education. The theoretical framework of this study integrates the TPB with other considerable factors, forming a comprehensive foundation.

Employing the SEM method for data analysis improves the reliability of the study's results.

TPB is a highly adaptable and extensively utilized theoretical framework that provides a significant understanding of human behavior and intention formation. Within educational contexts, TPB finds theoretical uses across diverse academic areas. It helps understand student engagement by highlighting the factors influencing their participation and active involvement in educational activities. The predictive capacity of the TPB extends beyond the understanding of academic accomplishment, enabling researchers to gain insights into students' behavioral intentions and suggest interventions to facilitate their learning process. In this context, the current study provides an extensive assessment of TPB for assessing the students' intentions by investigating its three proximal determinants with background factors.

Theoretically, this study examines the relationship of personal, social, and economic factors that form the intentions of male students to continue their higher studies. It contributes to a more enhanced understanding of their decision-making processes towards seeking higher education. By examining these diverse factors, this research explains the TPB applicability and broadens its explanatory capacity when associated with motivation, academic achievement, and career expectations. This combination effectively depicts the essence of male students' intentions toward higher education, demonstrating the

complex relationship between these critical variables. In addition, it is observed through this study that social factors, including parental and peer influence, tend to have a mediating role of subjective norms (determinant of TPB) for deriving the behavioral intention of male students toward higher studies. Furthermore, a statistical method and broadened research exploring the factors influencing male students' preferences utilizing a TPB gave a more comprehensive explanatory value for disturbed gender participation in Malaysian higher education institutions. By doing so, the study not only contributes to addressing the disparity in gender participation within higher education institutions but also furnishes a broader spectrum of explanatory theoretical insights.

In essence, the theoretical implications expand TPB's scope by emphasizing the relations between individual, social, and economic factors and the proximal determinants of TPB. This comprehension helps design interventions that address male students' intentions to pursue higher education by improving their prospects while contributing to the broader setting of higher educational attainment.

5.4 Practical Implications

The findings of this research have significant practical implications for several stakeholders, including the Malaysian Government, universities, educators, policymakers, society, parents, and students. This study presents new

findings pertaining to male students by focusing on the factors influencing their intention to pursue higher education. The objective of this study is to understand the variables that can help increase male students' participation in Malaysian higher education institutions by studying their intentions. Consequently, the findings of this study make a valuable contribution to Malaysia's national agenda on "Sustainable Development Goals (No. 4)" and the objective outlined in the "Malaysian Education Blueprints (2015-2025)" that aim to ensure broader and equitable educational access.

Practically, the study's findings are categorical and elaborative in assessing the various factors contributing to male students' behavioral intention in Malaysia. The findings show that male students have higher levels of academic achievement and motivation; they are also more likely to have a good attitude toward higher education, which increases their intention to continue their studies. It suggests a crucial demonstration of educational institutions, specifically schools, fostering motivation and attitude by prioritizing the academic success of male students. Educational institutions should make more proactive efforts to attract and motivate male educators, particularly for specialized programs. This effort aims to improve male students' perceptions of higher education. By doing so, male students can see their male teachers as role models, similar to how their female counterparts see their teachers. A similar phenomenon was noticed in the United States, where institutions began engaging male students by implementing specialized programs to increase male

students' awareness of higher education. Furthermore, these colleges have prioritized male students to provide them with the opportunity to pursue higher education (O. L. Liu et al., 2022). Liu et al. (2022) also suggested emphasizing the relevance of higher education to male students by encouraging the critical necessity and providing resourceful awareness to male students before entering higher education.

Schools can encourage increased communication between parents and teachers. This collaboration can aid in aligning parental aspirations with educational goals and help parents understand the significance of allowing their male children to explore higher education options.

Institutions, particularly schools, should engage in career counseling services that can incorporate discussions about the role of societal norms and influences on career decisions. By addressing these factors explicitly, counsellors can empower male students to make more autonomous and well-informed choices about pursuing higher education.

Additionally, more emphasis on advising and mentoring may enhance retention rates, particularly among males. One such initiative is the Minority Male Mentoring Program at the North Carolina Community College System. Boosting the proportion of boys in both 4-year and community colleges will

necessitate various techniques, ranging from recruitment to enrollment to retention (Barker & Avery, 2012).

Several universities in Canada have implemented initiatives to attract and retain male students. For example, the University of British Columbia has a program called the Men's Initiative, which aims to create a supportive community for male students and address issues that may be unique to men, such as career aspirations (Abrahams et al., 2022). Japan has long had a gender gap in higher education, with significantly more women than men attending universities. The government has implemented policies encouraging men to pursue higher education to address this issue. For example, the government has increased funding for scholarships for male students and has created programs that support male students who may be struggling academically (T.-L. Chen & Chang, 2020; Gelb, 2015).

Additionally, the Malaysian government needs to put more effort into encouraging and recruiting additional male teachers to ensure they are on par with the female teachers. This will help the male students see the male teachers as role models like their female counterparts.

Policymakers should focus on spending resources to make schools aware of the depletion of male students' interest in studies. In addition, resources should be utilized to arrange special programs for male students to help them

motivate and develop their attitudes toward academic activities. Besides, resources and efforts should be used to train the educationist to engage male students academically. This will improve job prospects and enhance social, economic, and individual well-being. Promoting inclusivity and recognizing the value of individuals who have not pursued higher education is vital. It ensures that society does not overlook the immense potential and talents of those who have chosen alternative paths or have been limited by various circumstances. It will help save society from becoming socially imbalanced regarding gender participation in education attainment and help accomplish social and economic vitality. It is further iterated that students get most of their social influence from subjective norms that mediate between parents' and peer influence. In this context, practical efforts should be utilized to inform male students about the importance of higher education. It can be achieved by mobilizing the resources to engage stakeholders socially. They will inspire the students to acknowledge that higher studies are crucial for individuals (male students particularly) to achieve social prosperity and equity.

The government has launched initiatives in Australia to improve male participation in higher education. For example, the Higher Education Participation and Partnerships Program provides funding to universities to develop programs that target underrepresented groups, including men (Australia, 2008; Cocks & Stokes, 2013). Additionally, the government has created several outreach programs to encourage boys and young men to

consider higher education a viable option. In the United States, many universities have implemented programs designed to attract and retain male students. For example, the University of Michigan has a Men's Leadership Academy program, which provides mentorship and leadership development opportunities for male students. Additionally, some universities have created programs that aim to address the specific needs of male students, such as support for veterans or programs designed to improve mental health outcomes (DiPrete & Buchmann, 2013).

Finally, society can be a valuable resource in assisting male students in developing subjective norms in pursuing higher education. In this context, collaboration between educational institutions and local communities can lead to awareness programs that emphasize the long-term benefits of higher education for both individuals, particularly males, and society. These programs can address misconceptions and encourage a supportive atmosphere for male students considering advanced studies.

Based on the findings, it can be inferred that the study significantly contributes to the practical advancement of understanding the factors influencing the intentions of secondary school male students to accomplish higher education goals. Using the findings of this study, educators, politicians, higher education institutions, community leaders, and male students can collaborate to solve the issue of diminishing male participation in higher

education institutions throughout Malaysia. They may effectively enhance male enrollment and establish a more inclusive and diversified academic environment in the country, leading to fair gender involvement in Malaysian higher education institutions.

5.5 Policy Implications

The study's findings illustrate the factors influencing male students' decision to pursue post-secondary education to understand their underrepresentation in Malaysian higher education institutions. Consequently, some policy implications may be derived to tackle this issue effectively.

Gender-Sensitive Outreach Programs: The Malaysian government can develop targeted outreach programs. The primary objective of these programs should be to specifically address male students by highlighting the benefits of higher education and its orientation with their career aspirations. These programs should also emphasize diverse opportunities students can grab after completing their studies. It should also highlight successful male role models that can foster male students' inspiration and interest in pursuing higher education.

Motivational Support Initiatives: The Malaysian government could implement initiatives that foster motivation among male students. These

initiatives could include mentorship programs, workshops, and career guidance sessions. By addressing motivational factors, institutions can instill a sense of purpose and enthusiasm for higher education.

Academic Enhancement Measures: The government can establish educational support programs tailored to the needs of male students, particularly in subjects where they might face challenges. Enhancing their academic performance makes male students more likely to develop positive attitudes toward higher education.

Curriculum Diversity and Relevance: The Malaysian government can collaborate with educators and industry experts to design curricula to establish male students' interest and help them accomplish their career goals. Institutions can influence male students' attitudes and intentions toward higher education by making the curriculum more relevant and engaging. The government can also collaborate with educational institutions to incorporate modules in secondary education that promote the value of higher education for all genders. Integrating information about tertiary studies' advantages into the curriculum can address misconceptions about gender-specific roles and education early.

Promotion of Career Prospects: The government can create awareness campaigns demonstrating the career opportunities and financial benefits of higher education. These sessions can assist in highlighting the long-term

advantages of a degree and positively influence male students' perceptions and intentions.

Inclusive Campus Environment: The Malaysian government can collaborate with educational institutions to establish an inclusive campus environment that acknowledges and appreciates the contributions of male students. Encourage male involvement in extracurricular activities and leadership roles to foster a sense of belonging and engagement.

Comprehensive Guidance Counseling: The Malaysian government can develop a plan to provide strengthened guidance-counseling services for personalized assistance to male students in navigating their educational and career choices. Address their concerns, aspirations, and uncertainties to help them make informed decisions.

Targeted Scholarships and Financial Aid: Given that socioeconomic status is not a significant predictor for male students to seek higher studies, scholarship and financial aid initiatives could be redirected or broadened to prioritize other variables that may impact educational achievements, such as academic achievement or career aspirations.

Enhancing Accessibility to Information: The government can develop a plan to ensure equitable access to information about opportunities in higher

education. It can be through information about the importance of higher education by highlighting the potential earning prospects after completing a higher education degree. The government can utilize technology to disseminate information through online platforms to ensure the rapid outreach of the program by explicitly targeting male students in Malaysia.

Promote Non-traditional Fields: The government can devise a program encouraging male students to choose non-traditional disciplines by implementing focused promotional campaigns and offering incentives. This could involve showcasing successful individuals in fields such as nursing, teaching, and social work and highlighting the rewarding career opportunities available in these areas.

Parental Engagement Workshops: The government can organize workshops for parents that emphasize the value of higher education and the diverse opportunities it offers. Inform parents about the changing landscape of education and its relevance in today's competitive job market.

Peer Mentorship Networks: A mechanism can be devised to develop peer mentorship networks where male students can connect with older male peers who have successfully pursued higher education. These mentors can provide guidance, share experiences, and inspire younger students.

Peer Influence Program: The government can fund the establishment of peer influence programs. These programs can utilize social networks' influence to develop positive attitudes toward higher education among male students. This could involve organizing peer mentoring groups, where older students act as mentors and influencers, sharing their positive experiences and encouraging younger peers to pursue higher education.

Social perception building: The government can implement interventions that modify subjective norms, targeting parental and peer influences. Educational campaigns can be designed to shape positive perceptions of higher education, emphasizing its societal importance and dispelling misconceptions.

Collaboration with Policy Agencies: The Malaysian government can collaborate with educational policy agencies, think tanks and academic institutions to integrate strategies to increase male participation in higher education institutions. Advocacy from policy levels can drive systemic changes and resource allocation.

Long-Term Tracking and Assessment: The government can establish a system to monitor and assess the impact of these policy initiatives on male participation in higher education institutions. Regular reviews of enrollment data and feedback from male students can provide insights into the effectiveness of the interventions and guide future efforts.

Longitudinal Studies: The Malaysian government can fund the relevant bodies to conduct longitudinal studies to track the long-term effects of the recommended interventions on male students' enrollment and persistence in higher education. This will provide a comprehensive understanding of the sustainability and impact of the proposed strategies.

The study's policy implications include a collaborative approach to addressing male underrepresentation in higher education institutions. The concerted efforts of educators, policymakers, parents, society, and male students themselves will contribute to a more balanced and inclusive educational landscape.

5.6 Recommendations

The current study has comprehensively examined the factors influencing male students' willingness to pursue studies to address the issue of low male participation in Malaysian higher education institutions. Based on these findings, strategic suggestions have been developed to address this issue and promote a more balanced and inclusive educational environment. These recommendations focus on minimizing the underlying reasons discouraging male students from pursuing higher education while creating a sense of individual responsibility for their academic goals. Implementing these ideas will result in a collaborative approach among higher education institutions, families,

male students, and society, aiming to increase male involvement in Malaysia's higher education environment.

Strengthening Academic Support: Educational institutions should allocate resources to enhance academic support programs specifically for male students. These academic programs can formed to offer tailored assistance and guidance that can nurture academic achievements and foster a more positive attitude of males towards higher education. Schools can create dedicated resource rooms where male students can access tutoring, study material, and academic assistance. These centers can be staffed with teachers and volunteers trained to provide personalized support to male students, thus motivating these students to continue higher education.

Implement Academic Enrichment Programs: Educational institutions can offer academic enhancement programs specifically designed to cater to male students' needs and interests. These programs could include supplementary activities such as educational clubs, debate teams, or creative writing workshops that provide opportunities for hands-on learning and skill development outside the traditional classroom environment. These opportunities can enhance the academic interest of male students, leading to academic excellence that can improve their prospects towards higher education.

Provide Study Skills Workshops: Educational institutes can organize workshops and seminars to develop study skills, time management techniques, and effective learning strategies. These workshops can help male students improve their study habits, enhance their organizational skills, and prepare for exams more effectively, thus harnessing positive intent towards their studies. Additionally, the schools can integrate activities and initiatives within the curriculum that promote positive attitudes towards higher education. This can include interactive sessions that challenge stereotypes and misconceptions, fostering a more inclusive educational environment.

Offer Remedial Support Programs: Schools and educational institutes can develop targeted remedial support programs for male students struggling academically. These programs can provide additional instruction, small-group tutoring, and intervention services to help male students improve their performance in key subject areas.

Fostering Career Path Clarity: Educational institutes should establish partnerships with industries and professions to offer male students a clearer understanding of the career prospects of higher education. Providing real-world insights into the practical benefits of advanced studies can strengthen their intentions. Besides, the government should facilitate educational institutions collaborating, developing, and implementing targeted career awareness programs with industries and the corporate sector, emphasizing the diverse

opportunities and benefits of higher education for male students. These programs can positively influence male students' attitudes and intentions by highlighting potential career paths and the impact of advanced studies.

Empowerment through Behavior Control: Educational institutions should develop training programs that empower male students with skills to navigate higher education choices and overcome potential barriers. By enhancing their PBC, institutions can build confidence in their ability to pursue tertiary education.

Promoting Peer Guidance: Peer programs can serve as a breakthrough that positively influences the subjective norms of male students, thus enhancing their intention to pursue higher education. In this context, an effort should be undertaken to encourage male students already pursuing higher education to serve as counselors and motivate their peers to follow the pathway leading through higher education. Schools can effectively achieve this by engaging male counselors with equal support from the community, which can establish positive social beliefs among school students to pursue higher education.

Collaborative partnership: The combined efforts among educational institutions, families, communities, and industries are required to address the low male enrollment issue collectively. Collaborative efforts can create a holistic approach to tackling the challenge. This will equally contribute to

integrating the concept of subjective norms into existing educational policies. By actively involving parents, families, and communities, institutions can amplify the influence of positive subjective norms on male students' intentions.

Early Intervention Programs: Educational institutions should establish intervention programs in secondary schools that focus on engaging male students in earlier stages of education. These initiatives can include advising to motivate and foster a positive attitude toward higher education early on. These programs have the potential to yield dual advantages. Firstly, it can enhance the learning experience for male students by sustaining their interest in academic pursuits. Secondly, it will help improve their academic performance. This will, ultimately, strengthen their interest in the pursuit of educational progress following the completion of school.

Tailored Outreach Campaigns: An integrated effort of institutions and local bodies must engage to develop targeted and culturally sensitive outreach campaigns that emphasize the benefits of higher education for males. These campaigns should address the specific concerns and misconceptions that deter male students from pursuing advanced studies.

Promoting Male Role Models: Educational institutions should collaborate with the industry to encourage male alumni who have excelled in their field due to higher studies. This will help increase male students' visibility

as successful participants in society. Their achievements can be inspiring models demonstrating the potential effective outcomes of pursuing higher education.

Digital Outreach: Educational institutes can utilize the digital platform. Social media and online platforms can help disseminate information about the benefits of higher education and counteract negative perceptions among male students.

Policy Advocacy for Gender Equity: Educational institutes can collaborate with policy influencers and advocacy groups to advocate for gender-equitable policies that address male students' unique challenges in pursuing higher education. This could include considerations for scholarships, enrollment targets, and support services.

These recommendations offered a comprehensive roadmap for future research endeavors and targeted initiatives to foster greater male participation in higher education institutions across Malaysia. Addressing individual attitudes and systemic barriers can contribute to a more equitable and thriving educational landscape, thus avoiding social imbalance in the education sector.

5.7 Study Limitations

Although the current study has provided valuable insights into the factors affecting male students' decision to seek higher studies to understand better the low participation of male students in Malaysian higher education institutions, it is essential to acknowledge and address the study's limitations.

It is important to remember that a Malaysian sample was used for the study. Given that culture may also significantly impact male students' intentions, it is prudent to exercise caution when generalizing the findings of the current study, especially to other cultures.

Furthermore, despite all preventive measures, the study relied on self-reported data; there is a chance that it involves bias and inaccuracies. In this context, participants' socially acceptable responses or intentional misreporting could have affected the validity of the results, which could have affected their intentions. Future studies could use self-reported data and objective metrics to increase their reliability.

Additionally, this study primarily concentrated on male students' intentions within higher education. The experiences and perspectives of other stakeholder groups, such as educators, parents, and peers, were not explored. Incorporating these viewpoints could provide a more comprehensive

understanding of the complex interplay of factors influencing male participation.

Moreover, the study used a cross-sectional methodology, providing an overview of male students' intentions at a certain period. To better understand the dynamics at work, a longitudinal study could provide insights into how these factors evolve and influence enrolment decisions in higher education.

5.8 Future Research

To further understand the factors influencing Malaysian male students' decision to pursue higher education, future research can build upon this study's findings and limitations and investigate other research areas:

Considering additional factors: Although the model used in this study showed strong predictive ability, it is crucial to recognize that other potential characteristics did not fall under the purview of this research framework. Consequently, future investigations could probe into additional variables to provide a more exhaustive comprehension of the determinants influencing male students' intentions to pursue higher education in Malaysian institutions. This expanded exploration would contribute to a more holistic understanding of the intricate dynamics of decision-making.

Cross-Cultural Comparative Study: Future studies could conduct a cross-cultural comparative study to investigate how cultural factors influence male students' intentions across different countries or regions. This would provide insights into the universality and specificity of the identified factors.

Mixed-Methods Approach: This study has relied on qualitative techniques, whereas future studies could combine quantitative analyses with qualitative methods, such as interviews or focus groups, to gain a more comprehensive understanding of the nuanced reasons behind male students' intentions. This would add depth to the quantitative findings.

Comparative Educational Systems: This study focused merely on the secondary school students of Malaysia, whereas future research can compare the experiences of male students in different types of higher education systems (e.g., technical institutions, research universities) to identify variances in intentions and factors influencing them.

Institutional Climate Study: The current study has only focused on the individual, social, and economic factors, whereas future research could explore the influence of the overall institutional climate on male students' intentions. Factors like campus diversity, inclusivity initiatives, and available support systems could play a pivotal role.

By investigating these future research directions, scholars can address the current study's limitations, enrich the understanding of factors affecting male students' intentions to pursue higher education, and contribute to developing more targeted and effective interventions for active male participation in higher education institutions.

References

Ab Hamid, M. R., Sami, W., & Sidek, M. H. M. (2017). Discriminant validity assessment: Use of Fornell & Larcker criterion versus HTMT criterion. *Journal of Physics: Conference Series*, *890*(1), 12163.

Abd Rahman, N. H., Ismail, S., Ridzuan, A. R., & Abd Samad, K. (2020). The issue of graduate unemployment in Malaysia: Post Covid-19. *International Journal of Academic Research in Business and Social Sciences*, *10*(10), 834–841.

Abrahams, S., Riley, P., & Zhang, K. (2022). *Critical Race Theory, Columbia Law School and the Legacies of Slavery: The Black Male Initiative*.

Afthanorhan, W. (2013). A comparison of partial least square structural equation modeling (PLS-SEM) and covariance based structural equation modeling (CB-SEM) for confirmatory factor analysis. *International Journal of Engineering Science and Innovative Technology*, *2*(5), 198–205.

Afzal, M., & Rashid, M. (2018). Higher Education in Asian Context: A Study of Students' Attitude towards Higher Education in Pakistani Universities. *Bulletin of Education and Research*, *40*(2), 137–145.

Aga, M. K., & Singh, A. (2022). The Role of Entrepreneurship Education on Student Entrepreneurial Intentions: Mediating Effect of Attitude, Subjective Norms, and Perceived Behavioral Control. *Journal of Business \& Management*, *28*(1).

Aggarwal, P., & Lawson-Smith, T. M. L. (2023). *The Effect of Student Perception of Parent Involvement and Socioeconomic Status on Academic Intrinsic Motivation*. University of Missouri-Saint Louis.

Ainley, J., Foreman, J., & Sheret, M. (1991). High School Factors That Influence Students to Remain in School. *The Journal of Educational Research*, *85*(2), 69–80. http://www.jstor.org/stable/27540457

Ajzen, I. (1985). From intentions to actions: A theory of planned behavior. In *Action control* (pp. 11–39). Springer.

Ajzen, I. (1991). The theory of planned behavior. *Organizational Behavior and Human Decision Processes*, *50*(2), 179–211.

Ajzen, I. (2002). Perceived Behavioral Control, Self-Efficacy, Locus of Control, and the Theory of Planned Behavior 1. *Journal of Applied Social Psychology*, *32*(4), 665–683. https://doi.org/10.1111/j.1559-1816.2002.tb00236.x

Ajzen, I. (2005). *Attitudes, personality, and behavior*. McGraw-Hill Education (UK).

Ajzen, I. (2006). Constructing a TPB questionnaire: conceptual and methodological considerations. 2002. *Revised January*.

Ajzen, I. (2011). *The theory of planned behaviour: reactions and reflections*. Taylor & Francis.

Ajzen, I. (2012). The theory of planned behavior. In *Handbook of Theories of Social Psychology* (Vol. 1, pp. 438–459). https://doi.org/10.4135/9781446249215.n22

Ajzen, I. (2020). The theory of planned behavior: Frequently asked questions. *Human Behavior and Emerging Technologies*, *2*(4), 314–324. https://doi.org/10.1002/hbe2.195

Ajzen, I., & Fishbein, M. (2005). The influence of attitudes on behavior. *The Handbook of Attitudes*, *173*(221), 31.

Ajzen, I., & Kruglanski, A. W. (2019). Reasoned action in the service of goal pursuit. *Psychological Review*.

Akey, T. M. (2006). School Context, Student Attitudes and Behavior, and

Academic Achievement: An Exploratory Analysis. *MDRC*.

Al-Barwani, T. A., Albeely, T. S., & Al-Suleimani, H. (2012). Parental involvement in higher education in Oman. *Jurnal Pendidikan Malaysia (Malaysian Journal of Education)*, *37*(1), 13–24.

Alam, M. S., & Saadat, Z. (2020). Factors affecting the reversal of gender disparity in higher education institutions (heis): a systematic review. *Asia Proceedings of Social Sciences*, *6*(3), 272–276. https://doi.org/10.31580/apss.v6i3.1489

Alcaine, J. G. (2016). Factors affecting institutional performance at high and very high research universities: Policy implications. In *ProQuest Dissertations and Theses*. https://search.proquest.com/docview/1803245343?accountid=35796

Ali, M. M. (2016). Are we asking the same questions in different contexts: translation techniques in cross-culture studies in science education? *Journal of Turkish Science Education*, *13*(1).

Ali, M. S., & Jalal, H. (2018). Higher Education as a Predictor of Employment: The World of Work Perspective. *Bulletin of Education and Research*, *40*(2), 79–90.

Allam, S. N. B. S., Hassan, M. S., Ridzuan, A. R. H., Mohideen, R. S., Ghani, S. N. F. F. A., & Mahasan, K. A. (2018). Young people decision in selection of higher education institution: Theory of planned behavior perspective. *International Journal Of Academic Research In Business And Social Sciences*, *8*(11).

Altawallbeh, M., Soon, F., Thiam, W., & Alshourah, S. (2015). Mediating role of attitude, subjective norm and perceived behavioural control in the relationships between their respective salient beliefs and behavioural intention to adopt e-learning among instructors in Jordanian universities.

Journal of Education and Practice, *6*(11), 152–160. https://api.semanticscholar.org/CorpusID:3021854

Alter, M. G. (2000). “Do Parents Matter?” Judith Rich Harris and Group Socialization Theory, a Challenge to Therapeutic Assumptions. *Pastoral Psychology*, *48*(3), 241–247. https://doi.org/10.1023/A:1021343227158

American Psychological Association. (2014). *Education and socioeconomic status fact sheet* (Vol. 30).

Amrein, A. L., & Berliner, D. (2003). Student motivation and learning. *NJ USA: HW Wilson Co*.

Anderson, J. R. (2023). The role of subjective norms in developing entrepreneurial intentions in university students. *Journal of Strategy and Management*, *16*(4), 643–653.

Andrew, M., & Flashman, J. (2017). School transitions, peer influence, and educational expectation formation: Girls and boys. *Social Science Research*, *61*, 218–233. https://doi.org/10.1016/j.ssresearch.2016.06.016

Arghode, V. (2012). Qualitative and quantitative research: Paradigmatic differences. *Global Education Journal*, *2012*(4).

Armitage, C. J., & Conner, M. (2001). Efficacy of the theory of planned behaviour: A meta-analytic review. *British Journal of Social Psychology*, *40*(4), 471–499.

Arndt, A. D., Ford, J. B., Babin, B. J., & Luong, V. (2022). Collecting samples from online services: How to use screeners to improve data quality. *International Journal of Research in Marketing*, *39*(1), 117–133.

Arshad, M., Zaidi, S. M. I. H., & Mahmood, K. (2015). Self-Esteem & Academic Performance among University Students. *Journal of Education and Practice*, *6*(1), 156–162.

Ashill, N. J. (2011). An introduction to structural equation modeling (SEM) and the partial least squares (PLS) methodology. In *Student satisfaction and learning outcomes in e-learning: An introduction to empirical research* (pp. 110–129). IGI Global.

ASSAF. (2016). Women for Science: Inclusion and Participation in Academies of Science. In *Report*. http://www.assaf.org.za/files/ASSAf news/ASSAF_IAP Report Final.pdf%5Cnhttp://www.assaf.org.za/index.php?option=com_content&view=article&id=254:women-underrepresented-in-world-science-report-finds&catid=20:assaf-news&Itemid=116

Australia, U. (2008). *Advancing Equity and Participation in Australian Higher Education: Action to address participation and equity levels in higher education of people from low socioeconomic backgrounds and Indigenous people*. Universities Australia Canberra, Australia.

Awan, R.-U.-N., Noureen, G., & Naz, A. (2011). A Study of Relationship between Achievement Motivation, Self Concept and Achievement in English and Mathematics at Secondary Level. *International Education Studies*, *4*(3), 72–79.

Awang, Z., Afthanorhan, A., & Asri, M. A. M. (2015). Parametric and non parametric approach in structural equation modeling (SEM): The application of bootstrapping. *Modern Applied Science*, *9*(9), 58.

Azhar, M., Nadeem, S., Naz, F., Perveen, F., & Sameen, A. (2014). Impact of parental education and socio-economic status on academic achievements of university students. *European Journal of Psychological Research*, *1*(1).

Bai, J., & Ng, S. (2005). Tests for skewness, kurtosis, and normality for time series data. *Journal of Business & Economic Statistics*, *23*(1), 49–60.

Bakar, K. A., Tarmizi, R. A., Mahyuddin, R., Elias, H., Luan, W. S., & Ayub,

A. F. M. (2010). Relationships between university students' achievement motivation, attitude and academic performance in Malaysia. *Procedia - Social and Behavioral Sciences*, *2*(2), 4906–4910. https://doi.org/10.1016/j.sbspro.2010.03.793

Baker, E. H. (2014). Socioeconomic Status, Definition. In *The Wiley Blackwell Encyclopedia of Health, Illness, Behavior, and Society* (pp. 2210–2214). John Wiley & Sons, Ltd. https://doi.org/10.1002/9781118410868.wbehibs395

Bandura, A. (1997). Self-efficacy: The exercise of control. *H. FreemanNew York, NY*.

Bandura, A. (2001). Social cognitive theory: An agentic perspective. *Annual Review of Psychology*, *52*(1), 1–26.

Bank, B. J., Slavings, R. L., & Biddle, B. J. (1990). Effects of Peer, Faculty, and Parental Influences on Students' Persistence. *Sociology of Education*, *63*(3), 208–225. http://www.jstor.org/stable/2112838

Bankole Adeyemi, F. (2019). Peer group influence on academic performance of undergraduate students in Babcock University, Ogun State. *African Educational Research Journal*, *7*(2), 81–87. https://doi.org/10.30918/AERJ.72.19.010

Baranek, L. K. (1996). *The effect of rewards and motivation on student achievement*.

Barker, M. J., & Avery, J. C. (2012). The impact of an institutional Black male leadership initiative on engagement and persistence. *College Student Affairs Journal*, *30*(2), 73.

Barreto, S. G. (2018). Editing for language and avoiding ambiguity in data presentation. *Thesis Writing for Master's and Ph. D. Program*, 199–205.

Barrett, P. (2007). Structural equation modelling: Adjudging model fit. *Personality and Individual Differences*, *42*(5), 815–824.

Barron, T. L. (2019). *First Generation College-Going African American Males' Perceptions: An Analysis of Factors That Influence Their Pursuit of Higher Education at a Historically Black University*.

Baumeister, R. F., & Leary, M. R. (1995). The need to belong: desire for interpersonal attachments as a fundamental human motivation. *Psychological Bulletin*, *117*(3), 497.

Becker, S., Bryman, A., & Ferguson, H. (2012). *Understanding research for social policy and social work: themes, methods and approaches*. Policy Press.

Bennett, A. E., Power, T. J., Eiraldi, R. B., Leff, S. S., & Blum, N. J. (2009). Identifying Learning Problems in Children Evaluated for ADHD: The Academic Performance Questionnaire. *PEDIATRICS*, *124*(4), e633–e639. https://doi.org/10.1542/peds.2009-0143

Berliner, D. C., & Calfee, R. C. (2013). *Handbook of educational psychology*. Routledge.

Bevir, M., & Rhodes, R. A. W. (2012). Interpretivism and the analysis of traditions and practices. *Critical Policy Studies*, *6*(2), 201–208.

Bhalerao, S., & Kadam, P. (2010). Sample size calculation. *International Journal of Ayurveda Research*, *1*(1), 55. https://doi.org/10.4103/0974-7788.59946

Biau, D. J., Kernéis, S., & Porcher, R. (2008). Statistics in Brief: The Importance of Sample Size in the Planning and Interpretation of Medical Research. *Clinical Orthopaedics and Related Research*, *466*(9), 2282–2288. https://doi.org/10.1007/s11999-008-0346-9

Biesta, G. J. J., & Burbules, N. C. (2003). *Pragmatism and educational research*. Rowman \& Littlefield Publishers, Inc.

Bloomfield, J., & Fisher, M. J. (2019). Quantitative research design. *Journal of the Australasian Rehabilitation Nurses Association*, *22*(2), 27–30.

Bodkyn, C., & Stevens, F. (2015). Self-directed learning, intrinsic motivation and student performance. *The Caribbean Teaching Scholar*, *5*(2).

Bonett, D. G., & Wright, T. A. (2015). Cronbach's alpha reliability: Interval estimation, hypothesis testing, and sample size planning. *Journal of Organizational Behavior*, *36*(1), 3–15.

Bougie, R., & Sekaran, U. (2019). *Research methods for business: A skill building approach*. John Wiley \& Sons.

Bouhlila, D. S., & Hentati, I. (2022). An Attempt to Explain the Gender Gap Reversal in Academic Achievement in Arab Countries. *Gulf Education and Social Policy Review (GESPR)*, 91–123.

Bowden, A., Fox-Rushby, J. A., Nyandieka, L., & Wanjau, J. (2002). Methods for pre-testing and piloting survey questions: illustrations from the KENQOL survey of health-related quality of life. *Health Policy and Planning*, *17*(3), 322–330.

Bowden, J. L.-H., Tickle, L., & Naumann, K. (2021). The four pillars of tertiary student engagement and success: a holistic measurement approach. *Studies in Higher Education*, *46*(6), 1207–1224. https://doi.org/10.1080/03075079.2019.1672647

Bradley, R. H., & Corwyn, R. F. (2002). Socioeconomic Status and Child Development. *Annual Review of Psychology*, *53*(1), 371–399. https://doi.org/10.1146/annurev.psych.53.100901.135233

Bressler, M., & Wendell, P. (1980). The Sex Composition of Selective Colleges

and Gender Differences in Career Aspirations. *The Journal of Higher Education*, *51*(6), 650–663. https://doi.org/10.1080/00221546.1980.11780101

Brislin, R. W. (1970). Back-Translation for Cross-Cultural Research. *Journal of Cross-Cultural Psychology*, *1*(3), 185–216. https://doi.org/10.1177/135910457000100301

Brislin, R. W., Lonner, W. J., & Thorndike, R. M. (1973). *Cross-cultural research methods*. J. Wiley.

Brod, M., Tesler, L. E., & Christensen, T. L. (2009). Qualitative research and content validity: developing best practices based on science and experience. *Quality of Life Research*, *18*, 1263–1278.

Broer, M., Bai, Y., Fonseca, F., Broer, M., Bai, Y., & Fonseca, F. (2019). A review of the literature on socioeconomic status and educational achievement. *Socioeconomic Inequality and Educational Outcomes: Evidence from Twenty Years of TIMSS*, 7–17.

Brooks, R. (2003). Young people's higher education choices: The role of family and friends. *British Journal of Sociology of Education*, *24*(3), 283–297.

Brown, J. D. (2011). Likert items and scales of measurement. *Statistics*, *15*(1), 10–14.

Brusoski, G. C., Golin, A. K., Gladis, M., & Beers, S. R. (1992). Parental encouragement and the decision to attend college. *The High School Journal*, *75*(4), 225–232.

Buchmann, C., & DiPrete, T. A. (2006). The growing female advantage in college completion: The role of family background and academic achievement. *American Sociological Review*, *71*(4), 515–541.

Calderón, J. L., Morales, L. S., Liu, H., & Hays, R. D. (2006). Variation in the

Readability of Items Within Surveys. *American Journal of Medical Quality*, *21*(1), 49–56. https://doi.org/10.1177/1062860605283572

Calfee, R. C., & Berliner, D. C. (1996). *Handbook of educational psychology*. Macmillan Library Reference USA, Simon & Schuster Macmillan.

Callaghan, C. W. (2016). Critical theory and contemporary paradigm differentiation. *Acta Commercii*, *16*(2), 59–99.

Campbell, J. J., Dunnette, M. D., Lawler, E. E., & Weick, K. E. (1970). *Managerial behavior, performance, and effectiveness.*

Carlhed, C. (2017). The Social Space of Educational Strategies: Exploring Patterns of Enrolment, Efficiency and Completion among Swedish Students in Undergraduate Programmes with Professional Qualifications. *Scandinavian Journal of Educational Research*, *61*(5), 503–525. https://doi.org/10.1080/00313831.2016.1172496

Carlson, K. D., & Herdman, A. O. (2012). Understanding the impact of convergent validity on research results. *Organizational Research Methods*, *15*(1), 17–32.

Carr, W. (2007). Philosophy, methodology and action research. In *The Quality of Practitioner Research* (pp. 29–42). Brill.

Carrión, G. C., Nitzl, C., & Roldán, J. L. (2017). Mediation analyses in partial least squares structural equation modeling: Guidelines and empirical examples. *Partial Least Squares Path Modeling: Basic Concepts, Methodological Issues and Applications*, 173–195.

Carvalho, R. G. G. (2016). Gender differences in academic achievement: The mediating role of personality. *Personality and Individual Differences*, *94*, 54–58.

Casillas, A., Robbins, S., Allen, J., Kuo, Y.-L., Hanson, M. A., & Schmeiser, C.

(2012). Predicting early academic failure in high school from prior academic achievement, psychosocial characteristics, and behavior. *Journal of Educational Psychology*, *104*(2), 407.

Castillo-Manzano, J. I., Castro-Nuño, M., López-Valpuesta, L., Sanz-Díaz, M. T., & Yñiguez, R. (2016). Measuring the effect of ARS on academic performance: A global meta-analysis. *Computers & Education*, *96*, 109–121. https://doi.org/10.1016/j.compedu.2016.02.007

Castro, J. F., Yamada, G., & Arias, O. (2016). Higher education decisions in Peru: on the role of financial constraints, skills, and family background. *Higher Education*, *72*(4), 457–486. https://doi.org/10.1007/s10734-016-0040-x

Cepeda-Carrion, G., Cegarra-Navarro, J.-G., & Cillo, V. (2019). Tips to use partial least squares structural equation modelling (PLS-SEM) in knowledge management. *Journal of Knowledge Management*, *23*(1), 67–89.

Cera, E., & Furxhiu, N. (2017). Factors which influence students entrepreneurship intentions: The role of education programs, Subjective Norms and Perceived Behavioral Control. *Journal of Educational and Social Research*, *7*(1), 173–179.

Chan, R. Y. (2016). Understanding the purpose of higher education: An analysis of the economic and social benefits for completing a college degree. *Journal of Education Policy, Planning and Administration*, *6*(5), 1–40.

Chang, T.-K., Huang, H., & Chang, S.-M. (2013). Understanding Educational Administrators' Subjective Norms on Their Use Intention toward On-Line Learning. In L. Uden, F. Herrera, J. Bajo Pérez, & J. M. Corchado Rodríguez (Eds.), *7th International Conference on Knowledge Management in Organizations: Service and Cloud Computing* (pp. 267–273). Springer Berlin Heidelberg.

Chavan, M. (2011). Higher Education Students' Attitudes Towards Experiential Learning in International Business. *Journal of Teaching in International Business*, *22*(2), 126–143. https://doi.org/10.1080/08975930.2011.615677

Chen, T.-L., & Chang, D.-F. (2020). Forecasting higher education expansion on gender parity in Japan and Korea. *ICIC Express Letters Part B: Applications*, *11*(4), 389–395.

Chen, W.-B., & Gregory, A. (2009). Parental involvement as a protective factor during the transition to high school. *The Journal of Educational Research*, *103*(1), 53–62.

Cheng, P.-Y., & Chu, M.-C. (2014). Behavioral factors affecting students' intentions to enroll in business ethics courses: A comparison of the theory of planned behavior and social cognitive theory using self-identity as a moderator. *Journal of Business Ethics*, *124*(1), 35–46.

Cheung, G. W., & Wang, C. (2017). Current approaches for assessing convergent and discriminant validity with SEM: Issues and solutions. *Academy of Management Proceedings*, *2017*(1), 12706.

Chicco, D., Warrens, M. J., & Jurman, G. (2021). The coefficient of determination R-squared is more informative than SMAPE, MAE, MAPE, MSE and RMSE in regression analysis evaluation. *PeerJ Computer Science*, *7*, e623.

Chin, W. S., Shen, Q. L., & others. (2015). Factors affecting individual career management among undergraduates in higher education institutions. *International Journal of Academic Research in Business and Social Sciences*, *5*(10), 56–68.

Chin, W. W. (1998). *Commentary: Issues and opinion on structural equation modeling*. JSTOR.

Chin, W. W. (2009). How to write up and report PLS analyses. In *Handbook of*

partial least squares: Concepts, methods and applications (pp. 655–690). Springer.

Churchill, G. A. (1979). A Paradigm for Developing Better Measures of Marketing Constructs. *Journal of Marketing Research*, *16*(1), 64–73. https://doi.org/10.2307/3150876

Clarke, N. (2014). *Asia Pacific: Education in Malaysia*. World Education Views Reviews. https://wenr.wes.org/2014/12/education-in-malaysia

Cocks, T., & Stokes, J. (2013). Policy into practice: A case study of widening participation in Australian higher education. *Widening Participation and Lifelong Learning*, *15*(1), 22–38.

Cohen, L., Manion, L., & Morrison, K. (2002). *Research methods in education*. routledge.

Cook, D. A., & Artino, A. R. (2016). Motivation to learn: an overview of contemporary theories. *Medical Education*, *50*(10), 997–1014. https://doi.org/10.1111/medu.13074

Cooper, G., Barkatsas, T., & Strathdee, R. (2016). The theory of planned behaviour (TPB) in educational research using structural equation modelling (SEM). In *Global learning in the 21st century* (pp. 139–162). Brill Sense.

Correa-Burrows, P., Rodriguez, Y., Blanco, E., Gahagan, S., & Burrows, R. (2017). Snacking quality is associated with secondary school academic achievement and the intention to enroll in higher education: A cross-sectional study in adolescents from Santiago, Chile. *Nutrients*, *9*(5), 433.

Correll, S. J. (2001). Gender and the Career Choice Process: The Role of Biased Self-Assessments. *American Journal of Sociology*, *106*(6), 1691–1730. https://doi.org/10.1086/321299

Crane, A., Henriques, I., Husted, B. W., & Matten, D. (2016). What Constitutes a Theoretical Contribution in the Business and Society Field? *Business & Society*, *55*(6), 783–791. https://doi.org/10.1177/0007650316651343

Craven, R. G., & Dillon, A. (2013). Seeding success in indigenous Australian higher education: Indigenous Australian students' participation in higher education and potential ways forward. *Seeding Success in Indigenous Australian Higher Education (Diversity in Higher Education), 14*, 3–27.

Crawford, A. S. (2016). *Motivational factors that influence African American students' decisions to pursue higher education: An exploratory study*. Rutgers The State University of New Jersey, Graduate School of Applied and~….

Credé, M., & Kuncel, N. R. (2008). Study habits, skills, and attitudes: The third pillar supporting collegiate academic performance. *Perspectives on Psychological Science*, *3*, 425–453.

Creswell, J. W. (2009). Mapping the field of mixed methods research. In *Journal of mixed methods research* (Vol. 3, Issue 2, pp. 95–108). SAGE publications Sage CA: Los Angeles, CA.

Creswell, J. W. (2014). *A concise introduction to mixed methods research*. SAGE publications.

Crosnoe, R., & Muller, C. (2014). Family Socioeconomic Status, Peers, and the Path to College. *Social Problems*, *61*(4), 602–624. https://doi.org/10.1525/sp.2014.12255

Crotty, M. (1998). Introduction: The research process. *The Foundations of Social Research: Meaning and Perspective in the Research Process*, 1–17.

Csók, C., Hrabéczy, A., & Németh, D. K. (2019). Focus on the dropout students' secondary school experience and career orientation. *Hungarian Educational Research Journal*, *9*(4), 708–720.

Cvecic, I., Sokolic, D., & Mrak, M. (2019). Higer education and economic prosperity at regional level. *Revista Portuguesa de Estudos Regionais, 50*, 9–25.

Dagnew, A. (2017). The relationship between students' attitudes towards school, values of education, achievement motivation and academic achievement in gondar secondary schools, ethiopia. *Research in Pedagogy*, *7*(1), 30–42. https://doi.org/10.17810/2015.46

Daguplo, M. (2017). Binary logistic predictive model in determining students' intention to take higher education. *Asia Pacific Journal of Multidisciplinary Research*, *5*(4), 138–143.

Daniels, L. M., Perry, R. P., Stupnisky, R. H., Stewart, T. L., Newall, N. E. G., & Clifton, R. A. (2014). The longitudinal effects of achievement goals and perceived control on university student achievement. *European Journal of Psychology of Education*, *29*, 175–194.

Darwish, S. Al. (2016). The Role of Socioeconomic Factor in Promoting Higher Education in the State of Kuwait. *International Education Studies*, *9*(6), 1. https://doi.org/10.5539/ies.v9n6p1

Dash, G., & Paul, J. (2021). CB-SEM vs PLS-SEM methods for research in social sciences and technology forecasting. *Technological Forecasting and Social Change*, *173*, 121092.

David, M. E. (2016). *Feminism, gender and universities: Politics, passion and pedagogies*. Routledge.

Davis-Kean, P. E. (2005). The influence of parent education and family income on child achievement: the indirect role of parental expectations and the home environment. *Journal of Family Psychology*, *19*(2), 294.

Davis, L. E., Ajzen, I., Saunders, J., & Williams, T. (2002). The decision of African American students to complete high school: An application of the

theory of planned behavior. *Journal of Educational Psychology*, *94*(4), 810.

Davison, C. B., & Dustova, G. (2017). A Quantitative Assessment of Student Performance and Examination Format. *Journal of Instructional Pedagogies*, *18*.

Dawson, E. M., & Chatman, E. A. (2001). Reference group theory with implications for information studies: a theoretical essay. *Information Research*, *6*(3), 3–6.

Dayioğlu, M., & Türüt-Aşik, S. (2007). Gender differences in academic performance in a large public university in Turkey. *Higher Education*, *53*(2), 255–277. https://doi.org/10.1007/s10734-005-2464-6

de Caprariis, P., Lindemann, R. H., & Collins, C. M. (1976). A method for determining optimum sample size in species diversity studies. *Journal of the International Association for Mathematical Geology*, *8*(5), 575–581.

DeFleur, M. L., & Westie, F. R. (1963). Attitude as a scientific concept. *Social Forces*, *42*(1), 17–31.

Deka, P. (2016). A study on parental involvement in higher level of education: voices of parents and students in Pub-Kamrup College and Patidarrang College, Kamrup district. *The Clarion- International Multidisciplinary Journal*, *5*, 57. https://doi.org/10.5958/2277-937X.2016.00009.5

Demetriou, C., & Schmitz-Sciborski, A. (2011). Integration, motivation, strengths and optimism: Retention theories past, present and future. *Proceedings of the 7th National Symposium on Student Retention*, *211*, 300–312.

Department of Statistics Malaysia. (2022). *Current Population Estimates, Malaysia, 2022*. Population & Demography. https://doi.org/https://www.dosm.gov.my/v1/index.php?r=column/ctheme

ByCat&cat=155&bul_id=dTZXanV6UUdyUEQ0SHNWOVhpSXNMUT09&menu_id=L0pheU43NWJwRWVSZklWdzQ4TlhUUT09

Deppen III, P. J. (2018). *The Gender Gap in Postsecondary Enrollment Intentions: the Mediating Role of Student Attitudes and Behaviors*.

Dicke, A.-L., Safavian, N., & Eccles, J. S. (2019). Traditional gender role beliefs and career attainment in STEM: A gendered story? *Frontiers in Psychology*, 1053.

Dillman, D. A. (2000). Mail and Internet Surveys: The Tailored Design Method. John Wiley & Sons. *Inc., New York: NY, Washington State University*.

DiPrete, T. A., & Buchmann, C. (2013). *The rise of women: The growing gender gap in education and what it means for American schools*. Russell Sage Foundation.

Donald, W., Ashleigh, M., & Baruch, Y. (2018). Students' perceptions of education and employability: Facilitating career transition from higher education into the labor market. *Career Development International*, *23*, 513–540. https://doi.org/10.1108/CDI-09-2017-0171

Donald, W. E., Baruch, Y., & Ashleigh, M. (2019). The undergraduate self-perception of employability: Human capital, careers advice, and career ownership. *Studies in Higher Education*, *44*(4), 599–614.

Dotson, R. (2016). Goal Setting to Increase Student Academic Performance. *Journal of School Administration Research and Development*, *1*(1), 44–46.

Drummond, A. (2017). Feasibility and pilot studies: Why are they important? In *British Journal of Occupational Therapy* (Vol. 80, Issue 6, pp. 335–336). SAGE Publications Sage UK: London, England.

Eccles, J. S. (2005). Influences of parents' education on their children's educational attainments: the role of parent and child perceptions. *London*

Review of Education, *3*(3), 191–204. https://doi.org/10.1080/14748460500372309

Eccles, J. S., & Wigfield, A. (2002). Motivational beliefs, values, and goals. *Annual Review of Psychology*, *53*, 109–132.

Edannur, S., & Firsad, S. (2015). Determinants of Educational Continuation Decisions of Higher Secondary School Students in India: An Application of Theory of Planned Behavior. *SSRN Electronic Journal*. https://doi.org/10.2139/ssrn.2679212

Eidimtas, A., & Juceviciene, P. (2014). Factors Influencing School-leavers Decision to Enrol in Higher Education. *Procedia - Social and Behavioral Sciences*, *116*(4), 3983–3988. https://doi.org/10.1016/j.sbspro.2014.01.877

El Kharouf, A., & Daoud, N. (2019a). Gender Role Attitudes among Higher Education Students in Jordan. *Mediterranean Journal of Social Sciences*, *10*(4), 63–75.

El Kharouf, A., & Daoud, N. (2019b). Gender Role Attitudes among Higher Education Students in Jordan. *Mediterranean Journal of Social Sciences*, *10*(4), 63–75. https://doi.org/10.2478/mjss-2019-0053

Engin, G. (2020). An Examination of Primary School Students' Academic Achievements and Motivation In Terms of Parents' Attitudes, Teacher Motivation, Teacher Self-efficacy and Leadership Approach. *International Journal of Progressive Education*, *16*(1), 257–276.

Ertem, H. (2006). Investigation of secondary education students' motivation types (intrinsic and extrinsic) and levels towards chemistry course based on some variables. *Unpublished Master Dissertation). Bal{\i}kesir University, Bal{\i}kesir*.

Erwananda, N. H., & Usman, O. (2021). The influence of self-efficacy, social economics of parents and learning motivation toward interests of

continuing to higher education. *International Journal of Education and Teaching, 1*(1), 29–41.

F. Hair Jr, J., Sarstedt, M., Hopkins, L., & G. Kuppelwieser, V. (2014). Partial least squares structural equation modeling (PLS-SEM). *European Business Review, 26*(2), 106–121. https://doi.org/10.1108/EBR-10-2013-0128

Fajčiková, A., & Urbancová, H. (2019). Factors Influencing Students' Motivation to Seek Higher Education—A Case Study at a State University in the Czech Republic. *Sustainability*, *11*(17), 4699.

Fan, W., & Williams, C. M. (2010). The effects of parental involvement on students' academic self-efficacy, engagement and intrinsic motivation. *Educational Psychology*, *30*(1), 53–74.

Fink, A. (2003). *The Survey Handbook*. SAGE Publications, Inc. https://doi.org/10.4135/9781412986328

Fischer, S., Barnes, R. K., & Kilpatrick, S. (2019). Equipping parents to support their children's higher education aspirations: A design and evaluation tool. *Educational Review*, *71*(2), 198–217.

Fishbein, M., & Ajzen, I. (1975). *Intention and Behavior: An introduction to theory and research.* Addison-Wesley, Reading, MA.

Fishbein, M., & Cappella, J. N. (2006). The role of theory in developing effective health communications. *Journal of Communication, 56,* S1--S17.

Flores, L. Y., Navarro, R. L., & DeWitz, S. J. (2008). Mexican American high school students' postsecondary educational goals: Applying social cognitive career theory. *Journal of Career Assessment, 16*(4), 489–501.

Forgas, J. P., Cooper, J., & Crano, W. D. (2011). *The psychology of attitudes and attitude change* (Vol. 12). Psychology Press.

Forza, C. (2002). Survey research in operations management: a process-based perspective. *International Journal of Operations & Production Management*.

Fouad, N. A., Cotter, E. W., Fitzpatrick, M. E., Kantamneni, N., Carter, L., & Bernfeld, S. (2010). Development and Validation of the Family Influence Scale. *Journal of Career Assessment*, *18*(3), 276–291. https://doi.org/10.1177/1069072710364793

Francis, B. (2002). Is the Future Really Female? The Impact and Implications of Gender for 14-16 Year Olds' Career Choices. *Journal of Education and Work*, *15*(1), 75–88. https://doi.org/10.1080/13639080120106730

Friedkin, N. E. (2010). The attitude-behavior linkage in behavioral cascades. *Social Psychology Quarterly*, *73*(2), 196–213.

Fritz, C. O., Morris, P. E., & Richler, J. J. (2012). Effect size estimates: current use, calculations, and interpretation. *Journal of Experimental Psychology: General*, *141*(1), 2.

Furnham, A., Chamorro-Premuzic, T., & McDougall, F. (2003). Personality, cognitive ability, and beliefs about intelligence as predictors of academic performance. *Learning and Individual Differences*, *14*(1), 47–64. https://doi.org/10.1016/j.lindif.2003.08.002

Garrison, H. H. (1979). Gender Differences in the Career Aspirations of Recent Cohorts of High School Seniors. *Social Problems*, *27*(2), 170–185. https://doi.org/10.2307/800366

Gayatri, G., Alversia, Y., & Astuti, R. D. (2013). The Influence of Attitude And Subjective Norms On Student's (Future) Intention and Future Decision Of Higher Level Studies: A Case Study of Five Universities with BHMN Status in Indonesia. *ASEAN Marketing Journal*, *2*(1), 4.

Gbollie, C., & Keamu, H. P. (2017). Student Academic Performance: The Role

of Motivation, Strategies, and Perceived Factors Hindering Liberian Junior and Senior High School Students Learning. *Education Research International*, *2017*, 1–11. https://doi.org/10.1155/2017/1789084

Gefen, D., Straub, D., & Boudreau, M.-C. (2000). Structural equation modeling and regression: Guidelines for research practice. *Communications of the Association for Information Systems*, *4*(1), 7.

Gelb, J. (2015). Gender equity in Japan. *JD Babb, The SAGE Handbook of Modern Japanese Studies*, 210–221.

George, D., & Mallery, P. (2003). SPSS for Windows step by step: A simple guide and reference. *George 4answers Pdf*, *549*.

Ghazvini, S. D., & Khajehpour, M. (2011). Gender differences in factors affecting academic performance of high school students. *Procedia - Social and Behavioral Sciences*, *15*, 1040–1045. https://doi.org/10.1016/j.sbspro.2011.03.236

Gobena, G. A. (2018). Family socio-economic status effect on students' academic achievement at college of education and behavioral sciences, Haramaya University, Eastern Ethiopia. *Journal of Teacher Education and Educators*, *7*(3), 207–222.

Gollwitzer, P. M. (1990). Action phases and mind-sets. In *Handbook of motivation and cognition: Foundations of social behavior, Vol. 2.* (pp. 53–92). The Guilford Press.

Goolamally, N. (2011). *Boys do poorly in schools: the malaysian story*. *Unpublished manuscript*

Gopalan, V., Bakar, J. A. A., Zulkifli, A. N., Alwi, A., & Mat, R. C. (2017). *A review of the motivation theories in learning*. 020043. https://doi.org/10.1063/1.5005376

Guay, F. (2022). Applying self-determination theory to education: Regulations types, psychological needs, and autonomy supporting behaviors. *Canadian Journal of School Psychology*, *37*(1), 75–92.

Gunawan, E. (2012). The wage effects on education: an analysis by gender in Indonesia. *International Journal of Social Sciences and Humanity Studies*, *4*(1), 117–126.

Gunzler, D., Chen, T., Wu, P., & Zhang, H. (2013). Introduction to mediation analysis with structural equation modeling. *Shanghai Archives of Psychiatry*, *25*(6), 390.

Guo, J., Parker, P. D., Marsh, H. W., & Morin, A. J. S. (2015). Achievement, motivation, and educational choices: A longitudinal study of expectancy and value using a multiplicative perspective. *Developmental Psychology*, *51*(8), 1163.

Guramatunhu, P. (2015). The Gender Shift in Enrollment Patterns in Higher Education: A Case Study of a School Administration Program. *Advancing Women in Leadership*, *35*, 120.

Hackett, G., & Betz, N. E. (1995). Self-Efficacy and Career Choice and Development. In J. E. Maddux (Ed.), *Self-Efficacy, Adaptation, and Adjustment: Theory, Research, and Application* (pp. 249–280). Springer US. https://doi.org/10.1007/978-1-4419-6868-5_9

Hagger, M. S., & Chatzisarantis, N. L. D. (2005). First-and higher-order models of attitudes, normative influence, and perceived behavioural control in the theory of planned behaviour. *British Journal of Social Psychology*, *44*(4), 513–535.

Haggis, T., & Pouget, M. (2002). Trying to be motivated: perspectives on learning from younger students accessing higher education. *Teaching in Higher Education*, *7*(3), 323–336.

Hahs-Vaughn, D. (2004). The impact of parents' education level on college students: An analysis using the beginning postsecondary students longitudinal study 1990-92/94. *Journal of College Student Development*, *45*(5), 483–500.

Hahs-Vaughn, D. L. (2016). *Applied multivariate statistical concepts*. Routledge.

Hair et al. (2017). A Primer on Partial Least Square Structural Equation Modelling (PLS-SEM). In *Journal of Chemical Information and Modeling* (Vol. 53, Issue 9).

Hair, J., Hollingsworth, C. L., Randolph, A. B., & Chong, A. Y. L. (2017). An updated and expanded assessment of PLS-SEM in information systems research. *Industrial Management \& Data Systems*, *117*(3), 442–458.

Hair, J., Hult, G. T. M., Ringle, C. M., & Sarstedt, M. (2021). *A primer on partial least squares structural equation modeling ({PLS-SEM}) A primer on partial least squares structural equation modeling ({PLS-SEM})* (3rd ed.). SAGE Publications.

Hair, J F, Black, W. C., Babin, B. J., & Anderson, R. E. (2013). *Multivariate Data Analysis*. Pearson Education Limited. https://books.google.com.my/books?id=VvXZnQEACAAJ

Hair, Joseph F., L.D.S. Gabriel, M., da Silva, D., & Braga Junior, S. (2019). Development and validation of attitudes measurement scales: fundamental and practical aspects. *RAUSP Management Journal*, *54*(4), 490–507. https://doi.org/10.1108/RAUSP-05-2019-0098

Hair, Joseph F., Risher, J. J., Sarstedt, M., & Ringle, C. M. (2019). When to use and how to report the results of PLS-SEM. *European Business Review*, *31*(1), 2–24.

Hair, Joseph F, Anderson, R. E., Babin, B. J., & Black, W. C. (2010).

Multivariate data analysis: A global perspective (Vol. 7). Upper Saddle River, NJ: Pearson.

Hair, Joseph F, Black, W. C., Babin, B. J., Anderson, R. E., & Tatham, R. L. (2006). *Multivariate data analysis (Vol. 6): Pearson Prentice Hall Upper Saddle River*. NJ.

Hair, Joseph F, Hult, G. T. M., Ringle, C. M., Sarstedt, M., & Thiele, K. O. (2017). Mirror, mirror on the wall: a comparative evaluation of composite-based structural equation modeling methods. *Journal of the Academy of Marketing Science*, *45*(5), 616–632.

Hair Jr, Joe F, Matthews, L. M., Matthews, R. L., & Sarstedt, M. (2017). PLS-SEM or CB-SEM: updated guidelines on which method to use. *International Journal of Multivariate Data Analysis*, *1*(2), 107–123.

Hair Jr, Joseph F., Hult, G. T. M., Ringle, C. M., Sarstedt, M., Danks, N. P., Ray, S., Hair, J. F., Hult, G. T. M., Ringle, C. M., Sarstedt, M., & others. (2021). Mediation analysis. *Partial Least Squares Structural Equation Modeling (PLS-SEM) Using R: A Workbook*, 139–153.

Hair Jr, Joseph F, Sarstedt, M., Ringle, C. M., & Gudergan, S. P. (2017). *Advanced issues in partial least squares structural equation modeling*. sage publications.

Häkkinen, I., Kirjavainen, T., & Uusitalo, R. (2003). School resources and student achievement revisited: new evidence from panel data. *Economics of Education Review*, *22*(3), 329–335.

Halawah, I. (2011). Factors influencing college students'motivation to learn from students'perspective. *Education*, *132*(2).

Ham, M., Jeger, M., & Frajman Ivković, A. (2015). The role of subjective norms in forming the intention to purchase green food. *Economic Research-Ekonomska Istraživanja*, *28*(1), 738–748.

https://doi.org/10.1080/1331677X.2015.1083875

Harackiewicz, J. M., Barron, K. E., Tauer, J. M., & Elliot, A. J. (2002). Predicting success in college: A longitudinal study of achievement goals and ability measures as predictors of interest and performance from freshman year through graduation. *Journal of Educational Psychology*, *94*(3), 562.

Harackiewicz, J. M., & Priniski, S. J. (2018). Improving Student Outcomes in Higher Education: The Science of Targeted Intervention. *Annual Review of Psychology*, *69*(1), 409–435. https://doi.org/10.1146/annurev-psych-122216-011725

Harges, B. M. (1997). Mediator qualifications: The trend toward professionalism. *BYU L. Rev.*, 687.

Haron, H., Hamid, N. A. A., Jamaludin, J., Azan, K. N. K., & others. (2017). Students' Decision Factors in Choosing Private Higher Education Institutions. *International Journal of Academic Research in Business and Social Sciences*, *7*(11), 1372–1382.

Harris, S. M. (1998). *Factors Influencing Pursuit of Higher Education: Validating a Questionnaire.*

Hassan, Z. A., Schattner, P., & Mazza, D. (2006). Doing a pilot study: why is it essential? *Malaysian Family Physician: The Official Journal of the Academy of Family Physicians of Malaysia*, *1*(2–3), 70.

Hayes, A. F. (2009). Beyond Baron and Kenny: Statistical mediation analysis in the new millennium. *Communication Monographs*, *76*(4), 408–420.

Hdii, S., & Fagroud, M. (2018). The effect of gender on university students' school performance: the case of the National School of Agriculture in Meknes, Morocco. *Culture & Society*, *9*(1), 67–78. https://doi.org/10.7220/2335-8777.9.1.4

Heale, R., & Twycross, A. (2015). Validity and reliability in quantitative studies. *Evidence-Based Nursing*, *18*(3), 66–67.

Heckhausen, J., & Heckhausen, H. (2008). *Motivation and action* (Vol. 22). Springer.

Heggestad, E., Scheaf, D., Banks, G., Hausfeld, M., Tonidandel, S., & Williams, E. (2019). Scale Adaptation in Organizational Science Research: A Review and Best-Practice Recommendations. *Journal of Management*, 014920631985028. https://doi.org/10.1177/0149206319850280

Hegna, K., & Smette, I. (2017). Parental influence in educational decisions: young people's perspectives. *British Journal of Sociology of Education*, *38*(8), 1111–1124. https://doi.org/10.1080/01425692.2016.1245130

Heidtman, J., Wysienska, K., & Szmatka, J. (2000). Positivism and types of theories in sociology. *Sociological Focus*, *33*(1), 1–26.

Henseler, J. (2018). Partial least squares path modeling: Quo vadis? *Quality & Quantity*, *52*(1), 1–8. https://doi.org/10.1007/s11135-018-0689-6

Henseler, J., Dijkstra, T. K., Sarstedt, M., Ringle, C. M., Diamantopoulos, A., Straub, D. W., Ketchen Jr, D. J., Hair, J. F., Hult, G. T. M., & Calantone, R. J. (2014). Common beliefs and reality about PLS: Comments on Rönkkö and Evermann (2013). *Organizational Research Methods*, *17*(2), 182–209.

Henseler, J., Ringle, C. M., & Sarstedt, M. (2015). A new criterion for assessing discriminant validity in variance-based structural equation modeling. *Journal of the Academy of Marketing Science*, *43*(1), 115–135. https://doi.org/10.1007/s11747-014-0403-8

Henseler, J., Ringle, C. M., & Sinkovics, R. R. (2009). The use of partial least squares path modeling in international marketing. In *New challenges to international marketing*. Emerald Group Publishing Limited.

Hill, K., Hoffman, D., & Rex, T. R. (2005). The value of higher education: Individual and societal benefits. *Arizona State University, Tempe, AZ, USA*.

Hillman, K. (2010). *Attitudes, intentions and participation in education: Year 12 and beyond*. Higher Education Policy Insitute Oxford.

Hillman, N., & Robinson, N. (2016). *Boys to Men: The underachievement of young men in higher education-and how to start tackling it*. Higher Education Policy Institute Oxford.

Holden, M. T., & Lynch, P. (2004). Choosing the appropriate methodology: Understanding research philosophy. *The Marketing Review*, *4*(4), 397–409.

Horn, L., Chen, X., & Adelman, C. (1998). Toward resiliency: At risk students who make it to college. In *Washington, DC.: US Department of Education. Office of Educational Research and Improvement*.

Horne, J. (2017). The final barrier? Australian women and the nineteenth-century public university. In *Women in Higher Education, 1850-1970* (pp. 76–96). Routledge.

Howard, J. L., Bureau, J. S., Guay, F., Chong, J. X. Y., & Ryan, R. M. (2021). Student motivation and associated outcomes: A meta-analysis from self-determination theory. *Perspectives on Psychological Science*, *16*(6), 1300–1323.

Howard, K. A. S., Carlstrom, A. H., Katz, A. D., Chew, A. Y., Ray, G. C., Laine, L., & Caulum, D. (2011). Career aspirations of youth: Untangling race/ethnicity, SES, and gender. *Journal of Vocational Behavior, 79*(1), 98–109. https://doi.org/10.1016/j.jvb.2010.12.002

Hu, L., & Bentler, P. M. (1999). Cutoff criteria for fit indexes in covariance structure analysis: Conventional criteria versus new alternatives. *Structural Equation Modeling: A Multidisciplinary Journal*, *6*(1), 1–55.

Huddleston, C. (2014). *Development of an instrument to measure student attitudes toward science fairs*. Liberty University, Lynchburg, VA.

Husain, Z., & Sarkar, S. (2011). Gender Disparities in Educational Trajectories in India: Do Females Become More Robust at Higher Levels? *Social Indicators Research*, *101*(1), 37–56. https://doi.org/10.1007/s11205-010-9633-4

Igwe, A., Ogbo, A., Agbaeze, E., Abugu, J., Ezenwakwelu, C., & Okwo, H. (2020). Self-Efficacy and Subjective Norms as Moderators in the Networking Competence–Social Entrepreneurial Intentions Link. *SAGE Open*, *10*(3), 215824402093487. https://doi.org/10.1177/2158244020934878

Imari, I., Wardana, E., Mintarti, S., & Haryono, A. (2020). The effect of attitude, subjective norm and perceived behavioral control on students' intention to choose sharia economics study programs. *Management Science Letters*, *10*(13), 3119–3126.

Imran, M., Afshari, M., Ghavifekr, S., & Abd Razak, A. Z. (2017). demography factors and students'academic performance in secondary schools. *MOJEM: Malaysian Online Journal of Educational Management*, *1*(2), 1–9.

Ismail, L. (2015). Gender Gap in Higher Education: Perspective on Factors Influencing Enrolment in Malaysian Universities: A University of Malaya Sample. *The Online Journal of Quality in Higher Education*, *2*(4), 35–45.

Jalaluddin, R. H., Megan, C., & Fang, L. Y. (2019). A Study of Factors Influencing Students' Decision to Pursue to Tertiary Education. *Proceedings of the 2019 International Conference on Management Science and Industrial Engineering - MSIE 2019*, 134–138. https://doi.org/10.1145/3335550.3339902

James, W. (2020). Pragmatism. In *Pragmatism* (pp. 53–75). Routledge.

Javaeed, A., Asghar, A., Allawat, Z., Haider, Q., Mustafa, K. J., & Ghauri, S. K. (2019). Assessment of Academic Motivation Level of Undergraduate Medical Students of Azad Kashmir, Pakistan. *Cureus*. https://doi.org/10.7759/cureus.4296

Jelas, Zalizan M., Salleh, A., Mahmud, I., Azman, N., Hamzah, H., Hamid, Z. A., Jani, R., & Hamzah, R. (2014). Gender Disparity in School Participation and Achievement: The Case in Malaysia. *Procedia - Social and Behavioral Sciences*, *140*, 62–68. https://doi.org/10.1016/j.sbspro.2014.04.387

Jelas, Zalizan Mohd, & Dahan, H. M. (2010). Gender and Educational Performance: The Malaysian Perspective. *Procedia - Social and Behavioral Sciences*, *7*, 720–727. https://doi.org/10.1016/j.sbspro.2010.10.098

Jeno, L. M., Danielsen, A. G., & Raaheim, A. (2018). A prospective investigation of students' academic achievement and dropout in higher education: a Self-Determination Theory approach. *Educational Psychology*, *38*(9), 1163–1184. https://doi.org/10.1080/01443410.2018.1502412

John, W., & Creswell, P. C. (2000). *Designing and conducting mixed methods research*.

Józsa, G., Oo, T. Z., Amukune, S., & Józsa, K. (2022). Predictors of the Intention of Learning in Higher Education: Motivation, Self-Handicapping, Executive Function, Parents' Education and School Achievement. *Education Sciences*, *12*(12), 906. https://doi.org/10.3390/educsci12120906

Jung, J., & Lee, S. J. (2019). Exploring the factors of pursuing a master's degree in South Korea. *Higher Education*, *78*(5), 855–870. https://doi.org/10.1007/s10734-019-00374-8

Kamaruddin, M. I. H., Ahmad, A., Husain, M. A., & Abd Hamid, S. N. (2021). Graduate employability post-COVID-19: the case of a Malaysian public university. *Higher Education, Skills and Work-Based Learning*, *11*(3), 710–724.

Kan, M. P. H., & Fabrigar, L. R. (2017). Theory of Planned Behavior. In *Encyclopedia of Personality and Individual Differences* (pp. 1–8). Springer International Publishing. https://doi.org/10.1007/978-3-319-28099-8_1191-1

Kang, J., Hense, J., Scheersoi, A., & Keinonen, T. (2019). Gender study on the relationships between science interest and future career perspectives. *International Journal of Science Education*, *41*(1), 80–101. https://doi.org/10.1080/09500693.2018.1534021

Kao, S., Chea, P., & Song, S. (2024). Upper secondary school tracking and major choices in higher education: to switch or not to switch. *Educational Research for Policy and Practice*, *23*(1), 89–113.

Kassarnig, V., Mones, E., Bjerre-Nielsen, A., Sapiezynski, P., Dreyer Lassen, D., & Lehmann, S. (2018). Academic performance and behavioral patterns. *EPJ Data Science*, *7*(1), 10. https://doi.org/10.1140/epjds/s13688-018-0138-8

Kearney, M.-L. (2009). Higher education, research and innovation: Charting the course of the changing dynamics of the knowledge society. *Higher Education, Research and Innovation: Changing Dynamics*, *7*.

Kelley, H. H. (1952). Two functions of reference groups. *Readings in Social Psychology*, *2*, 410–414.

Khoo, B. T. (2003). *Beyond Mahathir: Malaysian politics and its discontents*. Zed Books.

Kian, T. S., Yusoff, W. F. W., & Rajah, S. (2014). Job satisfaction and

motivation: What are the difference among these two. *European Journal of Business and Social Sciences*, *3*(2), 94–102.

Kim, S. won, Cho, H., & Kim, L. Y. (2019). Socioeconomic Status and Academic Outcomes in Developing Countries: A Meta-Analysis. *Review of Educational Research*, *89*(6), 875–916. https://doi.org/10.3102/0034654319877155

Kiriakidis, S. (2015). Theory of planned behaviour: The intention-behaviour relationship and the perceived behavioural control (PBC) relationship with intention and behaviour. *International Journal of Strategic Innovative Marketing*, *3*(2), 40–51.

Kleinginna, P. R., & Kleinginna, A. M. (1981). A categorized list of motivation definitions, with a suggestion for a consensual definition. *Motivation and Emotion*, *5*(3), 263–291. https://doi.org/10.1007/BF00993889

Kline, R. B. (2015). *Principles and practice of structural equation modeling*. Guilford publications.

Knabe, A. (2012). *Applying Ajzen's theory of planned behavior to a study of online course adoption in public relations education*. Marquette University.

Knauder, H., & Koschmieder, C. (2019). Individualized student support in primary school teaching: A review of influencing factors using the Theory of Planned Behavior (TPB). *Teaching and Teacher Education*, *77*, 66–76. https://doi.org/10.1016/j.tate.2018.09.012

Koch, A., Nafziger, J., & Nielsen, H. S. (2015). Behavioral economics of education. *Journal of Economic Behavior and Organization*, *115*, 3–17. https://doi.org/10.1016/j.jebo.2014.09.005

Kock, N. (2013). Using WarpPLS in e-collaboration studies: What if I have only one group and one condition? *International Journal of E-*

Collaboration (IJeC), *9*(3), 1–12.

Kock, N., & Hadaya, P. (2018). Minimum sample size estimation in PLS-SEM: The inverse square root and gamma-exponential methods. *Information Systems Journal*, *28*(1), 227–261.

Koe, W., Mara, U. T., & Mara, U. T. (2012). Factors Influencing the Foreign Undergraduates' Intention to Study at Graduate School of a Public University. *Jurnal Kemanusiaan*, *10*(1), 57–68.

Koludrovic, M., & Ercegovac, I. R. (2017). Does Higher Education Curriculum Contribute to Prospective Teachers' Attitudes, Self-Efficacy and Motivation?. *World Journal of Education*, *7*(1), 93–104.

Kotrlik, J., & Higgins, C. (2001). Organizational research: Determining appropriate sample size in survey research appropriate sample size in survey research. *Information Technology, Learning, and Performance Journal*, *19*(1), 43.

Krejcie, R. V, & Morgan, D. W. (1970). Determining sample size for research activities. *Educational and Psychological Measurement*, *30*(3), 607–610.

Kuipers, K. J. (2010). *Encyclopedia of Group Processes & Intergroup Relations*. SAGE Publications, Inc. https://doi.org/10.4135/9781412972017

Lancaster, G. A., Dodd, S., & Williamson, P. R. (2004). Design and analysis of pilot studies: recommendations for good practice. *Journal of Evaluation in Clinical Practice*, *10*(2), 307–312.

Lara, L., & Saracostti, M. (2019). Effect of Parental Involvement on Children's Academic Achievement in Chile. *Frontiers in Psychology*, *10*. https://doi.org/10.3389/fpsyg.2019.01464

Lavrakas, P. (2008). *Encyclopedia of Survey Research Methods*. Sage

Publications, Inc. https://doi.org/10.4135/9781412963947

Lavrakas, P. J. (2008). Convenience Sampling. In *Encyclopedia of Survey Research Methods*. Sage Publications, Inc. https://doi.org/10.4135/9781412963947.n105

LeBreton, J. M., Tonidandel, S., & Krasikova, D. V. (2013). Residualized relative importance analysis: A technique for the comprehensive decomposition of variance in higher order regression models. *Organizational Research Methods*, *16*(3), 449–473.

Leguina, A. (2015). A primer on partial least squares structural equation modeling (PLS-SEM). *International Journal of Research & Method in Education*, *38*(2), 220–221. https://doi.org/10.1080/1743727x.2015.1005806

Lent, R. W., & Brown, S. D. (2019). Social cognitive career theory at 25: Empirical status of the interest, choice, and performance models. *Journal of Vocational Behavior*, *115*, 103316.

Leong, L. H., & Sohail, M. S. (2006). Perceptions of career influences among private university academics: An empirical study in Malaysia. *International Journal of Management*, *23*(2), 222.

Lewis-Persky, N. (2010). *Keeping Children Healthy-How the Effects of Normative Messages on Parent Intentions vary with Social Normative Beliefs and Personality* [University of Pennsylvania]. http://repository.upenn.edu/edissertations/275

Lewis, S. (2015). Qualitative inquiry and research design: Choosing among five approaches. *Health Promotion Practice*, *16*(4), 473–475.

Liberatos, P., Link, B. G., & Kelsey, J. L. (1988). The measurement of social class in epidemiology. *Epidemiologic Reviews*, *10*(1), 87–121.

Liddell, M. J., & Davidson, S. K. (2004). Student attitudes and their academic performance: is there any relationship? *Medical Teacher*, *26*(1), 52–56. https://doi.org/10.1080/01421590310001642993

Lim, B. F. Y. (2018). Changes in Employment Structure in Malaysia: The Way Forward.". *Japan Labor*, *2*, 8.

Lin, L.-C. (2012). Measuring adult learners'foreign language anxiety, motivational factors, and achievement expectations: a comparative study between chinese as a second-language students and english as a second-language students. Cleveland State University.

Lipnevich, A. A., Gjicali, K., & Krumm, S. (2016). Understanding Attitudes in Education. In M. S. Khine & S. Areepattamannil (Eds.), *Non-cognitive Skills and Factors in Educational Attainment* (pp. 111–127). SensePublishers. https://doi.org/10.1007/978-94-6300-591-3_6

Lishinski, A., & Yadav, A. (2019). Motivation, Attitudes, and Dispositions. In *The Cambridge Handbook of Computing Education Research* (pp. 801–826). Cambridge University Press. https://doi.org/10.1017/9781108654555.029

Liu, D., & Morgan, W. J. (2018). Why do students enrol for postgraduate education in China? The influence of gender and of family habitus. *Gender and Education*, *0*(0), 1–17. https://doi.org/10.1080/09540253.2018.1447092

Liu, O. L., Bridgeman, B., & Fishtein, D. (2022). Men in Higher Education: A Gender Crisis in the United States? *Chinese/English Journal of Educational Measurement and Evaluation| 教育测量与评估双语季刊*, *3*(2), 1.

Liu, R.-D., Wang, J., Gu, D., Ding, Y., Oei, T. P., Hong, W., Zhen, R., & Li, Y.-M. (2019). The Effect of Parental Phubbing on Teenager's Mobile

Phone Dependency Behaviors: The Mediation Role of Subjective Norm and Dependency Intention. *Psychology Research and Behavior Management*, *Volume 12*, 1059–1069. https://doi.org/10.2147/PRBM.S224133

Loh, C. C., Chew, C. C., Leong, W. L., Tan, T. C., & Yan, W. Y. (2014). *A study on factors influencing students" intention to pursue higher education*. UTAR.

López, G. R., Scribner, J. D., & Mahitivanichcha, K. (2001). Redefining Parental Involvement: Lessons From High-Performing Migrant-Impacted Schools. *American Educational Research Journal*, *38*(2), 253–288. https://doi.org/10.3102/00028312038002253

Lortie, J., & Castogiovanni, G. (2015). The theory of planned behavior in entrepreneurship research: what we know and future directions. *International Entrepreneurship and Management Journal*, *11*(4), 935–957.

Lovelace, M., & Brickman, P. (2013). Best Practices for Measuring Students' Attitudes toward Learning Science. *CBE—Life Sciences Education*, *12*(4), 606–617. https://doi.org/10.1187/cbe.12-11-0197

Luo, J. M., Chau, K. Y., Lam, C. F., & Cheng, M. (2019). The relationship of student's motivation, program evaluation, career attitudes and career aspirations in university–industry cooperation program. *Cogent Education*, *6*(1), 1608686. https://doi.org/10.1080/2331186X.2019.1608686

MacKenzie, S. B., Podsakoff, P. M., & Podsakoff, N. P. (2011). Construct measurement and validation procedures in MIS and behavioral research: Integrating new and existing techniques. *MIS Quarterly*, 293–334.

Mahdavi, P., Valibeygi, A., Moradi, M., & Sadeghi, S. (2023). Relationship between achievement motivation, mental health and academic success in university students. *Community Health Equity Research & Policy*, *43*(3),

311–317.

Mahdzar, M., Jaapar, A., & Zain, W. Z. W. M. (2022). High School Students' Motivation Needs and Their Intentions to Pursue Tertiary Education. *International Academic Symposium of Social Science 2022*, 37. https://doi.org/10.3390/proceedings2022082037

Majogoro, K., & Mgabo, M. R. (2012). Self-employment intention among university students: testing Ajzen's theory of planned behaviour (TPB). *International Journal of Physical and Social Sciences*, *2*(8), 67–84.

Malhotra, M. K., & Grover, V. (1998). An assessment of survey research in POM: from constructs to theory. *Journal of Operations Management*, *16*(4), 407–425.

Malmström, M., & Öqvist, A. (2018). Students' attitudes and intentions toward higher education as determinants for grade performance. *International Journal of School & Educational Psychology*, *6*(1), 23–34. https://doi.org/10.1080/21683603.2016.1254132

Maneesriwongul, W., & Dixon, J. K. (2004). Instrument translation process: a methods review. *Journal of Advanced Nursing*, *48*(2), 175–186. https://doi.org/10.1111/j.1365-2648.2004.03185.x

Mansor, A. T., & Tan, K. A. (2009). Influence of Gender on Career Readiness among Malaysian Undergraduates. *Australian Journal of Career Development*, *18*(2), 33–44. https://doi.org/10.1177/103841620901800206

Marcenaro--Gutierrez, O., Lopez--Agudo, L. A., & Ropero-Garc\'\ia, M. A. (2018). Gender differences in adolescents' academic achievement. *Young*, *26*(3), 250–270.

Marjoribanks, K. (2003). The Family and Schooling in Asian and Pacific Countries. In *International Handbook of Educational Research in the Asia-Pacific Region* (pp. 43–57). Springer Netherlands.

https://doi.org/10.1007/978-94-017-3368-7_4

Marks, G. N., Cresswell, J., & Ainley, J. (2006). Explaining socioeconomic inequalities in student achievement: The role of home and school factors. *Educational Research and Evaluation*, *12*(02), 105–128.

Matelski, M. H., & Hogg, M. A. (2015). Group Processes, Social Psychology of. In *International Encyclopedia of the Social & Behavioral Sciences* (pp. 422–427). Elsevier. https://doi.org/10.1016/B978-0-08-097086-8.24017-8

Matusov, E. (1996). Replicability in Research: The Crisis of Positivist Ideology in the Social Sciences. *Theory \& Psychology*, *6*(3), 545–547.

Maziah Wan Ab Razak, W., Alia Syed Baharom, S., Abdullah, Z., Hamdan, H., Ulfa Abd Aziz, N., & Ismail Mohd Anuar, A. (2019). Academic Performance of University Students: A Case in a Higher Learning Institution. *KnE Social Sciences*, *3*(13), 1294. https://doi.org/10.18502/kss.v3i13.4285

McDermott, P. A., Mordell, M., & Stoltzfus, J. C. (2001). The organization of student performance in American schools: Discipline, motivation, verbal learning, nonverbal learning. *Journal of Educational Psychology*, *93*(1), 65.

McDonald, R. P. (1996). Path Analysis with Composite Variables. *Multivariate Behavioral Research*, *31*(2), 239–270. https://doi.org/10.1207/s15327906mbr3102_5

Md Talib, Z., Mosbah, A., & Al-Jubari, I. (2019). *Intention to Pursue Postgraduate Studies in Malaysian Universities*. *5*, 591–609.

Menon, M. E. (2010). Influences on the Decision to Enter Higher Education in Cyprus: A Comparison of Students' and Teachers' Perspectives. *Research in Comparative and International Education*, *5*(4), 382–393. https://doi.org/10.2304/rcie.2010.5.4.382

Menon, M. E., Markadjis, E., Theodoropoulos, N., & Socratous, M. (2017). Influences on the intention to enter higher education: the importance of expected returns. *Journal of Further and Higher Education*, *41*(6), 831–843. https://doi.org/10.1080/0309877X.2016.1188897

Micalizzi, L., Brick, L. A., Flom, M., Ganiban, J. M., & Saudino, K. J. (2019). Effects of socioeconomic status and executive function on school readiness across levels of household chaos. *Early Childhood Research Quarterly*, *47*, 331–340.

Miller, M. D., Furman, M., & Jackson, L. (2018). Behavioral Intentions of Performance On Student Evaluation of Course Quality An Application of The Theory of Planned Behavior. *Academy of Educational Leadership Journal*.

Mills, G. E., & Gay, L. R. (2019). *Educational research: Competencies for analysis and applications*. ERIC.

Ministry of Education. (2013). Malaysia Education Blueprint 2013 - 2025. In *Education* (Vol. 27, Issue 1). https://doi.org/10.1016/j.tate.2010.08.007

Ministry of Education. (2014). *Quick Facts 2014: Malaysian Educational Statistics*. https://doi.org/1985-6407

Ministry of Education. (2016). Quick Facts 2016: Malaysia Educational Statistics. In *Quick Facts 2016, Malaysia Educational Statistics*. http://www.moe.gov.my

Ministry of Education. (2017). *Quick Facts 2017 : Malaysia Educational Statistik*. www.moe.gov.my

Ministry of Education. (2018). Quick Facts: Malaysia education Statistics. In *Quick Facts 2018*.

Ministry of Education. (2019). Quick Facts Malaysia Educational Statistik. In

Kementerian Pendidikan Malaysia (Quick Facts 2018. www.moe.gov.my

Ministry of Education. (2021). *Maklumat Asas Pendidkan*. Basic Education Statisitics. https://doi.org/https://emisonline.moe.gov.my/risalahmap/

Ministry of Education Malaysia. (2021). Malaysia Quickfacts 2021. *Malaysia Educational Statistics*, *2016*(JULY), 49.

Misran, N., Sahuri, S. N. S., Arsad, N., Hussain, H., Zaki, W. M. D. W., & Aziz, N. A. (2012). The influence of socio-economic status among matriculation students in selecting university and undergraduate program. *Procedia-Social and Behavioral Sciences*, *56*, 134–140.

Mitsopoulou, A. G., & Pavlatou, E. A. (2024). Investigating the Factors Contributing to the Formation of Secondary School Students' Interest towards Higher Education Studies. *Education Sciences*, *14*(2), 183.

Moè, A., Pazzaglia, F., Tressoldi, P., & Toso, C. (2009). Attitude towards school, motivation, emotions and academic achievement. *Educational Psychology: Cognition and Learning, Individual Differences and Motivation*, 261–276.

Mohajan, H. K., & others. (2017). Two criteria for good measurements in research: Validity and reliability. *Annals of Spiru Haret University. Economic Series*, *17*(4), 59–82.

Moua, C. L. (2014). *The motivation for higher education among Hmong college students and the impact of parenting styles*.

Mueller, H. G. (2010). Three pre-tests: What they do and why experts say you should use them more. *The Hearing Journal*, *63*(4), 17–18.

Mukerji, S., & Tripathi, P. (2016). *Handbook of Research on Administration, Policy, and Leadership in Higher Education*. IGI Global. https://books.google.com.my/books?id=v4AoDQAAQBAJ

Mulà, I., Tilbury, D., Ryan, A., Mader, M., Dlouhá, J., Mader, C., Benayas, J., Dlouh\`y, J., & Alba, D. (2017). Catalysing change in higher education for sustainable development: A review of professional development initiatives for university educators. *International Journal of Sustainability in Higher Education*, *18*(5), 798–820.

Mustapha, R. B. (2017). Skills training and vocational education in Malaysia. *Education in Malaysia: Developments and Challenges*, 137–153.

Nachiappan, S., P. K. Veeran, V., & Andi, H. K. (2012). Gender issues in malaysian education: Factors influencing male and female students' academic achievement through cognitive processes in public examinations. *International Journal of Business and Social Research*, *2*(2). https://thejournalofbusiness.org/index.php/site/article/view/198/197

Nafis, H., Muchtar, B., & Khairani. (2020). The Influence of Parents' Income, Infrastructure and Facilities, Creativity of Learning, and Learning Motivation Toward Learning Achievement. *Proceedings of the 4th Padang International Conference on Education, Economics, Business and Accounting (PICEEBA-2 2019)*. https://doi.org/10.2991/aebmr.k.200305.104

Nagaraj, S., Goh, K.-L., Cheong, K.-C., Tey, N.-P., & Jani, R. (2017). Gender imbalance in educational attainment and labour market dynamics: Evidence from Malaysia. *Malaysian Journal of Economic Studies*, *51*, 127–145.

Nagaraj, S., Lee, K. H., Goh, K. L., & Tey, N. P. (2016). Malaysian adolescents not in School: The nexus of education, work and gender. *Malaysian Journal of Economic Studies*, *53*(1), 87–113.

Nakagawa, S., Johnson, P. C. D., & Schielzeth, H. (2017). The coefficient of determination R 2 and intra-class correlation coefficient from generalized linear mixed-effects models revisited and expanded. *Journal of the Royal*

Society Interface, *14*(134), 20170213.

Nausheen, M., Richardson, P. W., & Alvi, E. (2019). Patterns of Gender and Disciplinary Disparities among Postgraduate Students' Motivational Beliefs: A Multivariate Analysis. *Bulletin of Education and Research*, *41*(1), 203–220.

Nguyen, T.-M., Nham, P. T., & Hoang, V.-N. (2019). The theory of planned behavior and knowledge sharing: A systematic review and meta-analytic structural equation modelling. *VINE Journal of Information and Knowledge Management Systems*, *49*(1), 76–94.

Nieuwoudt, J. E., & Pedler, M. L. (2023). Student retention in higher education: Why students choose to remain at university. *Journal of College Student Retention: Research, Theory \& Practice*, *25*(2), 326–349.

Niiniluoto, I. (1999). *Critical scientific realism*.

Noorfauziah, M. (2014). *The effect of social economic status towards academic achievement of form four students in Perlis*. Universiti Utara Malaysia.

Norwegian Statistics Bureau. (2018). *Women and men in Norway*. https://www.ssb.no/en/befolkning/artikler-og-publikasjoner/_attachment/347081?_ts=1632b8bcba0

Ntekane, A. (2018). *Parental involvement in Education*. https://doi.org/10.13140/RG.2.2.36330.21440

O'Connell, M. (2019). Is the impact of SES on educational performance overestimated? Evidence from the PISA survey. *Intelligence*, *75*, 41–47. https://doi.org/10.1016/j.intell.2019.04.005

Oakes, J. M., & Andrade, K. E. (2017). The measurement of socioeconomic status. *Methods in Social Epidemiology*, *18*, 23–42.

Odom, L. R., & Henson, R. K. (2002). *Data Screening: Essential Techniques for Data Review and Preparation.*

Okioga, C. K. (2013). The impact of students' socio-economic background on academic performance in Universities, a case of students in Kisii University College. *American International Journal of Social Science, 2*(2), 38–46.

Olson-Strom, S., & Rao, N. (2020). Higher Education for Women in Asia. In C. S. Sanger & N. W. Gleason (Eds.), *Diversity and Inclusion in Global Higher Education: Lessons from Across Asia* (pp. 263–282). Springer Singapore. https://doi.org/10.1007/978-981-15-1628-3_10

Osborne, J. W., & Waters, E. (2019). Four assumptions of multiple regression that researchers should always test. *Practical Assessment, Research, and Evaluation, 8*(1), 2.

Otani, M. (2020). Parental involvement and academic achievement among elementary and middle school students. *Asia Pacific Education Review, 21*(1), 1–25.

Özen, S. O. (2017). The effect of motivation on student achievement. In *The factors effecting student achievement* (pp. 35–56). Springer.

Ozili, P. K. (2023). The acceptable R-square in empirical modelling for social science research. In *Social research methodology and publishing results: A guide to non-native english speakers* (pp. 134–143). IGI Global.

Pang, V., Azman, N., Sirat, M., & Koo, Y. L. (2016). Personal characteristics, career trajectory and job satisfaction of academics in Malaysia. *Biographies and Careers throughout Academic Life*, 47–65.

Park, H. S., & Smith, S. W. (2007). Distinctiveness and influence of subjective norms, personal descriptive and injunctive norms, and societal descriptive and injunctive norms on behavioral intent: A case of two behaviors critical

to organ donation. *Human Communication Research*, *33*(2), 194–218.

Park, Y. S., Konge, L., & Artino, A. R. (2020). The Positivism Paradigm of Research. *Academic Medicine*, *95*(5), 690–694. https://doi.org/10.1097/ACM.0000000000003093

Payne, G., & Judy Payne. (2004). Attitude Scales. In *Key Concepts in Social Research* (pp. 18–22). SAGE Publications, Ltd. https://doi.org/10.4135/9781849209397.n3

Peak, H. (1955). Attitude and motivation. In *Nebraska symposium on motivation: 1955*. (pp. 149–189). University of Nebraska Press.

Pett, M. A., Lackey, N. R., & Sullivan, J. J. (2003). *Making sense of factor analysis: The use of factor analysis for instrument development in health care research*. sage.

Philippis, M. De, & Rossi, F. (2019). *Parents, Schools and Human Capital Differences across Countries* (Issue dp1617). https://ideas.repec.org/p/cep/cepdps/dp1617.html

Plante, I., O'Keefe, P. A., & Théorêt, M. (2013). The relation between achievement goal and expectancy-value theories in predicting achievement-related outcomes: A test of four theoretical conceptions. *Motivation and Emotion*, *37*, 65–78.

Poindexter, P., Meraz, S., & Weiss, A. S. (2010). *Women, men and news: Divided and disconnected in the news media landscape*. Routledge.

Ponto, J. (2015). Understanding and evaluating survey research. *Journal of the Advanced Practitioner in Oncology*, *6*(2), 168.

Porter, L. W., & Lawler, E. E. (1968). *What job attitudes tell about motivation*. Harvard Business Review Reprint Service.

Potrac, P., Jones, R. L., & Nelson, L. (2014). Interpretivism. In *Research methods in sports coaching* (pp. 31–41). Routledge.

Prasetyo, D. A., Perangin-angin, R. B. B., & Saragi, D. (2020). The Influence of Learning Strategies and Social Interactions on the Learning Outcomes PKn of Grade V Students at SD Negeri 014711 Sipare-Pare In Batubara District. *Jurnal Ilmiah Teunuleh*, *1*(2), 193–201.

Pryor, B. W., & Pryor, C. R. (2009). What Will Teachers Do to Involve Parents in Education?: Using a Theory of Reasoned Action. *Journal of Educational Research & Policy Studies*, *9*(1), 45–59.

Puklek Levpušček, M., & Podlesek, A. (2017). Veljavnost in zanesljivost Lestvice akademske motivacije na vzorcu slovenskih študentov. *Psihološka Obzorja / Horizons of Psychology*, *26*, 10–20. https://doi.org/10.20419/2017.26.461

Pulla, V., & Carter, E. (2018). Employing interpretivism in social work research. *International Journal of Social Work and Human Services Practice*, *6*(1), 9–14.

Purwanto, A. (2021). Partial least squares structural squation modeling (PLS-SEM) analysis for social and management research: a literature review. *Journal of Industrial Engineering \& Management Research*.

Putit, L., Sheriff, S. H., Zaman, M. D. K., Andaleeb, S. S., & Bhuiyan, S. I. (2022). Do university students' quality of learning engagement behaviour matter? An empirical insight. *Asian Journal of University Education*, *18*(2), 454–468.

Quadir, B., Chen, N.-S., & Isaias, P. (2022). Analyzing the educational goals, problems and techniques used in educational big data research from 2010 to 2018. *Interactive Learning Environments*, *30*(8), 1539–1555.

Ramachandran, V. S. (2012). Encyclopedia of human behavior. In Birgit

Spinath (Ed.), *Academic achievement* (pp. 1–8). Academic Press.

Rao, S. (2004). Faculty attitudes and students with disabilities in higher education: A literature review. *College Student Journal, 38*(2), 191–199.

Rashid, A. R. A., Hussin, S., & Putih, A. T. (2005). *Career development and unemployment problems in Malaysia: Crisis of education and training*. Utusan Publications.

Rasoolimanesh, S. M. (2022). Discriminant validity assessment in PLS-SEM: A comprehensive composite-based approach. *Data Analysis Perspectives Journal*, *3*(2), 1–8.

Raza, S. A., Umer, A., Qazi, W., & Makhdoom, M. (2018). The Effects of Attitudinal, Normative, and Control Beliefs on M-Learning Adoption Among the Students of Higher Education in Pakistan. *Journal of Educational Computing Research*, *56*(4), 563–588. https://doi.org/10.1177/0735633117715941

Reardon, R. C., Melvin, B., McClain, M.-C., Peterson, G. W., & Bowman, W. J. (2015). The career course as a factor in college graduation. *Journal of College Student Retention: Research, Theory \& Practice, 17*(3), 336–350.

Reynolds, N., Diamantopoulos, A., & Schlegelmilch, B. (1993). Pre-testing in questionnaire design: A review of the literature and suggestions for further research. *Market Research Society. Journal.*, *35*(2), 1–11.

Richardson, M., Abraham, C., & Bond, R. (2012). Psychological correlates of university students' academic performance: A systematic review and meta-analysis. *Psychological Bulletin*, *138*, 353–387.

Rika, N., Roze, J., & Sennikova, I. (2016). Factors affecting the choice of higher education institutions by prospective students in Latvia. *Cbu International Conference Proceedings*, *4*, 422–430.

Riou, J., Guyon, H., & Falissard, B. (2016). An introduction to the partial least squares approach to structural equation modelling: a method for exploratory psychiatric research. *International Journal of Methods in Psychiatric Research*, *25*(3), 220–231. https://doi.org/10.1002/mpr.1497

Riphahn, R. T., & Schwientek, C. (2015). bb. *Applied Economics*, *47*(53), 5748–5775.

Rizkallah, E. G., & Seitz, V. A. (2017). Understanding student motivation: A key to retention in higher education. *Scientific Annals of Economics and Business*, *64*(1), 45–57.

Robbins, S. B., Lauver, K., Le, H., Davis, D., Langley, R., & Carlstrom, A. (2004). Do noncognitive and study skills factors predict college outcomes? A meta-analysis. *Psychological Bulletin*, *130*, 261–288.

Rock, C. (2010). Irish secondary school students' intention to pursue higher education: an investigation to identify the strongest predictors. *Student Psychology Journal*, *1*, 77–93.

Rodriguez-Hernández, C. F., Cascallar, E., & Kyndt, E. (2020). Socio-economic status and academic performance in higher education: A systematic review. *Educational Research Review*, *29*, 100305.

Romm, N. R. A. (1991a). Positivism as a Theory of Science. In *The Methodologies of Positivism and Marxism* (pp. 9–54). Springer.

Romm, N. R. A. (1991b). Positivism in Sociology. In *The Methodologies of Positivism and Marxism* (pp. 55–81). Springer.

Rönkkö, M., & Cho, E. (2022). An updated guideline for assessing discriminant validity. *Organizational Research Methods*, *25*(1), 6–14.

Rosenqvist, E. (2018a). *Social influence and educational decisions: studies on peer influence in secondary education*. Department of Sociology,

Stockholm University.

Rosenqvist, E. (2018b). Two Functions of Peer Influence on Upper-secondary Education Application Behavior. *Sociology of Education*, *91*(1), 72–89. https://doi.org/10.1177/0038040717746113

Rouse, K. A. G., & Austin, J. T. (2002). The Relationship of Gender and Academic Performance to Motivation: Within-Ethnic-Group Variations. *The Urban Review*, *34*(4), 293–316. https://doi.org/10.1023/A:1021392000533

Rughoobur-Seetah, S. (2019). Factors affecting students' choices of tertiary institutions in small island developing economies. *Quality in Higher Education*, *25*(2), 117–132. https://doi.org/10.1080/13538322.2019.1635303

Ryan, R. M., & Deci, E. L. (2020). Intrinsic and extrinsic motivation from a self-determination theory perspective: Definitions, theory, practices, and future directions. *Contemporary Educational Psychology*, *61*, 101860.

Ryan, S., & Carr, A. (2010). Applying the biopsychosocial model to the management of rheumatic disease. In *Rheumatology* (pp. 63–75). Elsevier. https://doi.org/10.1016/B978-0-443-06934-5.00005-X

Sá, C., & Tavares, O. (2018). How student choice consistency affects the success of applications in Portuguese higher education. *Studies in Higher Education*, *43*(12), 2148–2160. https://doi.org/10.1080/03075079.2017.1313219

Saadat, Z., Alam, S., & Rehman, M. (2022). Review of factors affecting gender disparity in higher education. *Cogent Social Sciences*, *8*(1). https://doi.org/10.1080/23311886.2022.2076794

Saadat, Z., & Sultana, A. M. (2023). Understanding gender disparity: factors affecting higher education self-efficacy of students in Malaysia. *Journal of*

Science and Technology Policy Management, *ahead-of-p*(ahead-of-print). https://doi.org/10.1108/JSTPM-10-2022-0165

Saliya, C. A. (2023). Research Philosophy: Paradigms, World Views, Perspectives, and Theories. In *Social Research Methodology and Publishing Results: A Guide to Non-Native English Speakers* (pp. 35–51). IGI Global.

Salkind, N. (2010). *Encyclopedia of Research Design*. https://doi.org/10.4135/9781412961288 NV - 0

Salleh, S. M. (2013). *Factors Influencing Students' Intentions to Study Science in Upper Secondary*.

Samah, I. H. A., Razali, R., & Basri, H. H. (2015). Lifelong learning and youth employability: Graduates in Malaysia. *International Journal of Innovative Research and Advanced Studies (IJIRAS)*, *8*(9), 25–29.

Sánchez, A., & Singh, A. (2018). Accessing higher education in developing countries: Panel data analysis from India, Peru, and Vietnam. *World Development*, *109*, 261–278. https://doi.org/10.1016/j.worlddev.2018.04.015

Sass, D. A., & Schmitt, T. A. (2013). Testing measurement and structural invariance: Implications for practice. In *Handbook of quantitative methods for educational research* (pp. 315–345). Brill.

Saunders, M., Lewis, P., & Thornhill, A. (2009). Understanding research philosophies and approaches. *Research Methods for Business Students*, *4*, 106–135.

Saunders, M., Lewis, P., & Thornhill, A. (2019). Research methods for business students eight edition. *QualitativeMarket Research: An International Journal*.

Saunders, M. N. K., Lewis, P., Thornhill, A., & Bristow, A. (2015). *Understanding research philosophy and approaches to theory development*.

Scheer, R. (2004). The 'mental state'theory of intentions. *Philosophy*, *79*(1), 121–131.

Schnabel, K. U., Alfeld, C., Eccles, J. S., Köller, O., & Baumert, J. (2002). Parental Influence on Students' Educational Choices in the United States and Germany: Different Ramifications—Same Effect? *Journal of Vocational Behavior*, *60*(2), 178–198. https://doi.org/10.1006/jvbe.2001.1863

Schneider, D. (2012). Gender deviance and household work: The role of occupation. *American Journal of Sociology*, *117*(4), 1029–1072.

Schnettler, T., Bobe, J., Scheunemann, A., Fries, S., & Grunschel, C. (2020). Is it still worth it? Applying expectancy-value theory to investigate the intraindividual motivational process of forming intentions to drop out from university. *Motivation and Emotion*, *44*, 491–507.

Schrodt, P., Wheeless, L. R., & Ptacek, K. M. (2000). Informational reception apprehension, educational motivation, and achievement. *Communication Quarterly*, *48*(1), 60–73.

Schunk, D. H. (2000). Coming to terms with motivation constructs. *Contemporary Educational Psychology*, *25*(1), 116–119.

Schwarz, N. (2007). Attitude construction: Evaluation in context. *Social Cognition*, *25*(5), 638–656.

Sekaran, U., & Bougie, R. (2003). Research Methods For Business, A Skill Building Approach, John Willey & Sons. *Inc. New York.*

Selvam, P. (2013). A study on relationship between parental education and

student achievement. *Education Research Journal*, *3*(3), 75–82.

Setiya, K. (2018). Intention. In E. N. Zalta (Ed.), *The Stanford Encyclopedia of Philosophy* (Fall 2018). Metaphysics Research Lab, Stanford University.

Sewell, W. H., & Shah, V. P. (1968). Parents' education and children's educational aspirations and achievements. *American Sociological Review*, 191–209.

Sharif, N., Ahmad, N., & Sarwar, S. (2019). Factors influencing career choices. *IBT Journal of Business Studies*, *15*(1), 33–46.

Shariff, S. H., Putit, L., & Zaman, M. D. K. (2020). Theorizing University Students' Engagement Behavior in Learning: A Faculty of Business and Management Perspective. *Advances in Business Research International Journal*, *6*(2), 144–153.

Shields, A. B., & Peruta, A. (2019). Social media and the university decision. Do prospective students really care? *Journal of Marketing for Higher Education*, *29*(1), 67–83. https://doi.org/10.1080/08841241.2018.1557778

Siddiqui, K. (2013). Heuristics for sample size determination in multivariate statistical techniques. *World Applied Sciences Journal*, *27*(2), 285–287.

Siegel, A. F., & Wagner, M. R. (2022). Random Sampling. In *Practical Business Statistics* (pp. 205–235). Elsevier. https://doi.org/10.1016/B978-0-12-820025-4.00008-7

Socioeconomic Status and Education. (2014). In *Encyclopedia of Education Economics & Finance*. SAGE Publications, Inc. https://doi.org/10.4135/9781483346595.n255

Spinath, B. (2012). Academic Achievement. In *Encyclopedia of Human Behavior* (pp. 1–8). Elsevier. https://doi.org/10.1016/B978-0-12-375000-6.00001-X

Springer, S. H., Larson, L. M., Tilley, B. P., Gasser, C. E., & Quinn, A. C. (2001). *The Development of an Educational and Career Outcome Expectancy Scale.*

Staniec, J. F. O. (2004). The Effects of Race, Sex, and Expected Returns on the Choice of College Major. *Eastern Economic Journal*, *30*(4), 549–562. http://www.jstor.org/stable/40326147

Steinmayr, R., Dinger, F. C., & Spinath, B. (2012). Motivation as a mediator of social disparities in academic achievement. *European Journal of Personality*, *26*, 335–349.

Stopher, P. (2012). *Collecting, managing, and assessing data using sample surveys*. Cambridge University Press.

Sutter, N., & Paulson, S. (2017). Predicting college students' intention to graduate: a test of the theory of planned behavior. *College Student Journal*, *50*(3), 409–421.

SZÁSZ, E., & BERNATH, K. (2016). Motivation Factors of Pursuing Higher Education in the Hungary-Romania Cross-Border Area. *Romania*, *62*(51.5), 62–64.

Tabachnick, B. G., & Fidell, L. S. (2013). Using multivariate statistics: International edition. *Pearson2012*.

Taber, K. S. (2018). The use of Cronbach's alpha when developing and reporting research instruments in science education. *Research in Science Education*, *48*(6), 1273–1296.

Tagoe, M. A., & Abakah, E. (2014). Determining Distance Education Students' Readiness for Mobile Learning at University of Ghana Using the Theory of Planned Behavior. *International Journal of Education and Development Using Information and Communication Technology*, *10*(1), 91–106.

Talip, D., Hassan, Z., Kasa, M., Sabil, S., & Ibrahim, D. K. A. (2021). The relationship of work life balance and the quality of life among employees studying part time. *International Journal of Academic Research in Business and Social Sciences, 11*(14), 270–284.

Tasgin, A., & Coskun, G. (2018). The Relationship between Academic Motivations and University Students' Attitudes towards Learning. *International Journal of Instruction, 11*(4), 935–950. https://doi.org/10.12973/iji.2018.11459a

Temple, S. L. (2009). *Factors that influence students' desires to attend higher education* [. Seton Hall University Dissertations and Theses (ETDs). 420]. https://scholarship.shu.edu/dissertations/420

Teo, T., Koh, N. K., & Lee, C. B. (2011). Teachers' intention to teach financial literacy in Singapore: A path analysis of an extended Theory of Planned Behaviour (TPB). *Asia-Pacific Education Researcher, 20*(2), 410–419.

Teo, T., & Lee, C. B. (2010). Explaining the intention to use technology among student teachers. *Campus-Wide Information Systems*.

Thébaud, S. (2010). Masculinity, bargaining, and breadwinning: Understanding men's housework in the cultural context of paid work. *Gender \& Society, 24*(3), 330–354.

Thébaud, S., & Pedulla, D. S. (2016). Masculinity and the stalled revolution: How gender ideologies and norms shape young men's responses to work--family policies. *Gender \& Society, 30*(4), 590–617.

Thomas, W., & Webber, D. J. (2001). 'Because my friends are': the impact of peer groups on the intention to stay on at sixteen. *Research in Post-Compulsory Education, 6*(3), 339–354. https://doi.org/10.1080/13596740100200113

Thomson, S. (2018). Achievement at school and socioeconomic background—

an educational perspective. *Npj Science of Learning*, *3*(1), 5. https://doi.org/10.1038/s41539-018-0022-0

Tienxhi, J. Y. (2017). The Gender Gap in Malaysian Public Universities: Examining The "Lost Boys." *Journal of International and Comparative Education*, *6*(1), 1–16. https://doi.org/10.14425/jice.2017.6.1.0116

Titus, M. A. (2006). Understanding college degree completion of students with low socioeconomic status: The influence of the institutional financial context. *Research in Higher Education*, *47*(4), 371–398.

Tiwari, P., & Bhat, A. K. (2017). The Mediating Role of Subjective Norms in the Formation of Social Entrepreneurial Intentions. *Academy of Management Proceedings*, *2017*(1), 13429. https://doi.org/10.5465/AMBPP.2017.13429abstract

Toebe, M., & Cargnelutti Filho, A. (2013). Multicollinearity in path analysis of maize (Zea mays L.). *Journal of Cereal Science*, *57*(3), 453–462.

Tomlinson, M. (2008). 'The degree is not enough': students' perceptions of the role of higher education credentials for graduate work and employability. *British Journal of Sociology of Education*, *29*(1), 49–61. https://doi.org/10.1080/01425690701737457

Tonglet, M., Phillips, P. S., & Read, A. D. (2004). Using the Theory of Planned Behaviour to investigate the determinants of recycling behaviour: a case study from Brixworth, UK. *Resources, Conservation and Recycling*, *41*(3), 191–214.

Topor, D. R., Keane, S. P., Shelton, T. L., & Calkins, S. D. (2010). Parent Involvement and Student Academic Performance: A Multiple Mediational Analysis. *Journal of Prevention & Intervention in the Community*, *38*(3), 183–197. https://doi.org/10.1080/10852352.2010.486297

Trawalter, S., Hoffman, K., & Palmer, L. (2021). Out of place: Socioeconomic

status, use of public space, and belonging in higher education. *Journal of Personality and Social Psychology*, *120*(1), 131.

Tyupa, S. (2011). A theoretical framework for back-translation as a quality assessment tool. *New Voices in Translation Studies*, *7*(1), 35–46.

Tzu-Ling, H. (2019). Gender differences in high-school learning experiences, motivation, self-efficacy, and career aspirations among Taiwanese STEM college students. *International Journal of Science Education*, *41*(13), 1870–1884.

Ullah, M. I., Sagheer, A., Sattar, T., & Khan, S. (2013). Factors Influencing Students Motivation to Learn in Bahauddin Zakariya University, Multan (Pakistan). *International Journal of Human Resource Studies*, *3*(2), 90. https://doi.org/10.5296/ijhrs.v3i2.4135

UNESCO. (n.d.). *WORLD of Gender Equality in Education of Gender Equality in Education*.

UNESCO. (2010). *Global education digest 2010: Comparing education statistics across the world*. Institute for Statistics, UNESCO Paris, France.

UNESCO. (2012). *World Atlas of Gender Equality in Education*. https://doi.org/https://www.macfound.org/media/files/UNESCO-world-atlas-gender-education.pdf

UNESCO. (2018). *Achieving gender equality in education: don't forget the boys, Global education monitoring report: policy paper, 35 [46]*. https://unesdoc.unesco.org/ark:/48223/pf0000262714

UNESCO Insitute of Statistics. (2022). *Global Flow of Tertiary Education*. https://uis.unesco.org/en/uis-student-flow

United Nations Educational, S., & (UNESCO), C. O. (2018). *Global education monitoring report 2019: migration, displacement and education: Building*

bridges, not walls. unesco Paris.

United Nations Educational Scientific Cultural Organization(UNESCO). (2009). *Global education digest*. UNESCO Montreal.

Usán Supervía, P., Salavera Bordás, C., & Teruel, P. (2019). School motivation, goal orientation and academic performance in secondary education students. *Psychology Research and Behavior Management*, *Volume 12*, 877–887. https://doi.org/10.2147/PRBM.S215641

Utvaer, B. K., & Haugan, G. (2016). The Academic Motivation Scale: Dimensionality, Reliability, and Construct Validity Among Vocational Students. *Journal of Vocational Education and Training*, *6*, 17–45.

Valli Jayanthi, S., Balakrishnan, S., Lim Siok Ching, A., Aaqilah Abdul Latiff, N., & Nasirudeen, A. M. A. (2014). Factors Contributing to Academic Performance of Students in a Tertiary Institution in Singapore. *American Journal of Educational Research*, *2*(9), 752–758. https://doi.org/10.12691/education-2-9-8

Van Bavel, J., Schwartz, C. R., & Esteve, A. (2018). The Reversal of the Gender Gap in Education and Its Consequences for Family Life. *Annual Review of Sociology*, *44*(1), 341–360. https://doi.org/10.1146/annurev-soc-073117-041215

Van Calster, K., Lens, W., & Nuttin, J. R. (1987). Affective attitude toward the personal future: Impact on motivation in high school boys. *The American Journal of Psychology*, 1–13.

Van Teijlingen, E., & Hundley, V. (2001). The importance of pilot studies. *Social Research Update*, *35*, 1–4.

Verešová, M., Mala, D., & others. (2016). Attitude toward school and learning and academic achievement of adolescents. *7th International Conference on Education and Educational Psychology, Published by Future Academy*.

Vincent-Lancrin, S. (2008). *The Reversal of Gender Inequalities in Higher Education*.

Wadhwa, R. (2017). Who goes for higher education: understanding the differential decision among indian students. *Researchers World : Journal of Arts, Science and Commerce*, *VIII*(3), 57–69. https://doi.org/10.18843/rwjasc/v8i3/07

Wagner, K., & Fard, P.-Y. (2009). Factors influencing Malaysian students' intention to study at a higher educational institution. *E-Leader Kuala Lumpur*.

Walpole, M. (2003). Socioeconomic status and college: How SES affects college experiences and outcomes. *The Review of Higher Education*, *27*(1), 45–73.

Wan, C. da. (2012). The Changing Gender Disparity in Malaysian Higher Education: Where are the boys? *Bulletin of Higher Education Research*, *20*, 4–8.

Wan, C. Da. (2018). Student enrolment in Malaysian higher education: is there gender disparity and what can we learn from the disparity? *Compare*, *48*(2), 244–261. https://doi.org/10.1080/03057925.2017.1306435

Wang, X., Liu, X., & Pang, L. (2021). A Study on the Secondary Vocational Students' Intention of Enter to Higher Education in the Underdeveloped Areas of Western China Based on the Theory of Planned Behavior. *Chinese Studies*, *10*(4), 195–210.

Warshaw, P. R., & Davis, F. D. (1985). Disentangling behavioral intention and behavioral expectation. *Journal of Experimental Social Psychology*, *21*(3), 213–228.

Wated, G. (2011). Retention among first year college students: an application of the theory of planned behavior. *Modern Psychological Studies*, *16*(2), 3.

Watt, H. M. G., Shapka, J. D., Morris, Z. A., Durik, A. M., Keating, D. P., & Eccles, J. S. (2012). Gendered motivational processes affecting high school mathematics participation, educational aspirations, and career plans: a comparison of samples from Australia, Canada, and the United States. *Developmental Psychology*, *48*(6), 1594.

Watts, L. L., Frame, M. C., Moffett, R. G., Van Hein, J. L., & Hein, M. (2015). The relationship between gender, perceived career barriers, and occupational aspirations. *Journal of Applied Social Psychology*, *45*(1), 10–22. https://doi.org/10.1111/jasp.12271

Weale, S. (2016). No Title UK's university gender gap is a national scandal, says thinktank. *The Guardian*. https://www.theguardian.com/education/2016/may/12/university-gender-gap-scandal-thinktank-men

Weng, L.-J., & Cheng, C.-P. (2000). Effects of Response Order on Likert-Type Scales. *Educational and Psychological Measurement*, *60*(6), 908–924. https://doi.org/10.1177/00131640021970989

Whewell, W. (2017). Comte and positivism. *Epistemology \& Philosophy of Science*, *54*(4), 209–224.

White, K. M., Smith, J. R., Terry, D. J., Greenslade, J. H., & McKimmie, B. M. (2009). Social influence in the theory of planned behaviour: The role of descriptive, injunctive, and in-group norms. *British Journal of Social Psychology*, *48*(1), 135–158.

White, K. R. (1982). The relation between socioeconomic status and academic achievement. *Psychological Bulletin*, *91*(3), 461.

Whitehead, A. L., Julious, S. A., Cooper, C. L., & Campbell, M. J. (2016). Estimating the sample size for a pilot randomised trial to minimise the overall trial sample size for the external pilot and main trial for a

continuous outcome variable. *Statistical Methods in Medical Research*, *25*(3), 1057–1073. https://doi.org/10.1177/0962280215588241

Wibrowski, C. R., Matthews, W. K., & Kitsantas, A. (2017). The Role of a Skills Learning Support Program on First-Generation College Students' Self-Regulation, Motivation, and Academic Achievement: A Longitudinal Study. *Journal of College Student Retention: Research, Theory & Practice*, *19*(3), 317–332. https://doi.org/10.1177/1521025116629152

Wicks, A. C., & Freeman, R. E. (1998). Organization Studies and the New Pragmatism: Positivism, Anti-positivism, and the Search for Ethics. *Organization Science*, *9*(2), 123–140. https://doi.org/10.1287/orsc.9.2.123

Wigfield, A., & Cambria, J. (2010). Students' achievement values, goal orientations, and interest: Definitions, development, and relations to achievement outcomes. *Developmental Review*, *30*, 1–35.

Wijerathna, K., & Thisera, T. J. R. (2018). *The factors influencing the career choice of final year undergraduates*.

Wijewardena, K. (2016). Are Male University Students' Perception on Female Gender role Differs with Higher Education and Discipline of Study? *Austin Journal of Women's Health*, *Austin J W*.

Williams, B., Onsman, A., & Brown, T. (2010). Exploratory factor analysis: A five-step guide for novices. *Australasian Journal of Paramedicine*, *8*, 1–13.

Williams, M. A. (1970). Reference groups: A review and commentary. *The Sociological Quarterly*, *11*(4), 545–554.

Winters-Miner, L. A., Bolding, P. S., Hilbe, J. M., Goldstein, M., Hill, T., Nisbet, R., Walton, N., & Miner, G. D. (2015). Personalized Medicine. In *Practical Predictive Analytics and Decisioning Systems for Medicine* (pp. 176–204). Elsevier. https://doi.org/10.1016/B978-0-12-411643-6.00013-2

Wolf, E. J., Harrington, K. M., Clark, S. L., & Miller, M. W. (2013). Sample Size Requirements for Structural Equation Models. *Educational and Psychological Measurement*, *73*(6), 913–934. https://doi.org/10.1177/0013164413495237

Wolf, S., & McCoy, D. C. (2019). Household socioeconomic status and parental investments: Direct and indirect relations with school readiness in Ghana. *Child Development*, *90*(1), 260–278.

Wolff, F., Wigfield, A., Möller, J., Dicke, A.-L., & Eccles, J. S. (2020). Social, dimensional, and temporal comparisons by students and parents: An investigation of the 2I/E model at the transition from elementary to junior high school. *Journal of Educational Psychology*, *112*(8), 1644.

Wong, K. K.-K. (2016). Mediation analysis, categorical moderation analysis, and higher-order constructs modeling in Partial Least Squares Structural Equation Modeling (PLS-SEM): A B2B Example using SmartPLS. *Marketing Bulletin*, *26*(1), 1–22.

World Bank, S. (2012). Gender differences in employment and why they matter. *World Bank World Development Report*, 198–253.

Wu, C.-L., & Bai, H. (2015). From early aspirations to actual attainment: The effects of economic status and educational expectations on university pursuit. *Higher Education*, *69*, 331–344.

Yan, Z., & Sin, K. (2014). Inclusive education: teachers' intentions and behaviour analysed from the viewpoint of the theory of planned behaviour. *International Journal of Inclusive Education*, *18*(1), 72–85. https://doi.org/10.1080/13603116.2012.757811

Yang, D., Chen, P., Wang, K., Li, Z., Zhang, C., & Huang, R. (2023). Parental Involvement and Student Engagement: A Review of the Literature. *Sustainability*, *15*(7), 5859.

Yang, T., Wang, Y., Deng, J., & Huang, C. (2021). Attitude, social norms, and perceived behavioral control influence the academic integrity-related behavioral intentions of graduate students. *Social Behavior and Personality: An International Journal*, *49*(4), 1–12.

Yilmaz, E., Turgut, M., Kele, A., & Kele, A. (2017). Variables Affecting Student Motivation Based on Academic Publications. *Journal of Education and Practice*, *8*(12), 112–120.

Young, W., Weckman, G., & Holland, W. (2011). A survey of methodologies for the treatment of missing values within datasets: Limitations and benefits. *Theoretical Issues in Ergonomics Science*, *12*(1), 15–43.

Zainal, N. R., Kamaruddin, R., & Nathan, S. B. S. (2009). Socio-Economic Status and Parental Savings for Higher Education among Malaysian Bumiputera Families. *International Journal of Economics and Finance*, *1*(2). https://doi.org/10.5539/ijef.v1n2p170

Žaleniene, I., & Pereira, P. (2021). Higher education for sustainability: A global perspective. *Geography and Sustainability*, *2*(2), 99–106.

Zhao, X., Lynch Jr, J. G., & Chen, Q. (2010). Reconsidering Baron and Kenny: Myths and truths about mediation analysis. *Journal of Consumer Research*, *37*(2), 197–206.

Zolait, A. H. S. (2014). The nature and components of perceived behavioural control as an element of theory of planned behaviour. *Behaviour \& Information Technology*, *33*(1), 65–85.