



**PSYCHOSOCIAL FACTORS AS A PREDICTOR OF ACADEMIC
ACHIEVEMENT AMONG STUDENT-ATHLETES IN A MALYSIAN SPORTS
SCHOOL**

By

MOHD AMIRUL SYAFIQ BIN ABDULLAH

**Thesis Submitted to the School of Graduate Studies, Universiti Putra
Malaysia, in Fulfilment of the Requirements for the Degree of Master of
Science**

August 2022

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fulfilment of the requirement for the degree of Master of Science

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Chair : Aini Marina Ma'rof, PhD
Faculty : Educational Studies

Despite excelling in competitive sports, student-athletes have consistently underperformed academically despite empirical evidence suggesting a positive impact of regular physical activities on learning and memory. Reports show that their exam performance is just above the passing marks and that they find it hard to look for jobs. Thus, this research investigates psychosocial factors that might play a significant role in academic achievements in the context of a Malaysian sports school. This study adopted the predictive correlational research design and was conducted on 282 secondary school-aged student-athletes. Participants were selected using stratified random sampling to make sure that all age groups were covered. A series of Pearson's Correlation Coefficients were performed to determine the relationships between psychosocial factors (mindsets, perceived social support, and achievement motivation) with academic achievements in four core subjects – Bahasa Melayu, English, Mathematics, and Science and engagement (cognitive and affective). Multiple linear regressions were also carried out to investigate the significant psychosocial predictors of academic achievement. Despite previous studies that found strong relationships between psychosocial factors and student academic performance, the current research found that the psychosocial factors examined did not significantly predict academic achievement of student-athletes. Motivation seems to be the only factor that has a significant relationship with academic achievement in all four core subjects. Based on the data, the student-athletes in general have growth mindsets in both academic and sports, low to medium perceived social supports, and that male student-athletes have higher amotivation levels. Intrinsic and extrinsic motivation have positive correlations with language subjects and negative correlations with amotivation. Intrinsic motivation towards accomplishment was an additional significant predictor for the Science subject. Finally, the mediation analyses show five subcategories of motivation – intrinsic motivation to know, towards accomplishment, to experience stimulation, extrinsic motivation identified, and amotivation – to be mediated significantly by affective

engagement with only the language subjects, especially English. In sum, the main findings of this study suggest that motivation plays a significant role in affecting student outcomes in the four core subjects, but especially on language subjects, shedding new light on issues pertaining to student-athletes' academic achievement. This study has demonstrated a clear implication that motivation is the only psychosocial factor that plays an integral part in improving student-athletes' academic achievement in the current sample thus schools should prioritize addressing the lack of this fundamental driving force that energizes and directs student behaviour toward achievement over other enrichment programs.



Abstrak tesis yang dikemukakan kepada Senat Universiti Putra Malaysia
sebagai memenuhi keperluan untuk ijazah Master Sains

**PSIKOSOSIAL SEBAGAI FAKTOR PERAMAL PENCAPAIAN AKADEMIK
DALAM KALANGAN ATLET-MURID DI SEBUAH SEKOLAH SUKAN
MALAYSIA**

Oleh

MOHD AMIRUL SYAFIQ BIN ABDULLAH

Ogos 2022

Pengerusi : Aini Marina Ma'rof, PhD
Fakulti : Pengajian Pendidikan

Walaupun cemerlang dalam sukan, atlet-pelajar secara konsisten menunjukkan prestasi yang kurang baik dari segi akademik walaupun bukti empirikal menunjukkan kesan positif aktiviti fizikal terhadap pembelajaran dan ingatan. Laporan menunjukkan bahawa prestasi peperiksaan mereka hanya melebihi markah lulus dan sukar untuk mencari pekerjaan. Oleh itu, kajian ini menyiasat faktor psikososial yang mungkin memainkan peranan penting dalam pencapaian akademik dalam konteks Sekolah Sukan Malaysia. Kajian ini menggunakan pakai reka bentuk penyelidikan korelasi ramalan dan dijalankan ke atas 282 atlet pelajar. Peserta dipilih menggunakan pensampelan rawak berstrata untuk memastikan semua kumpulan umur diliputi. Satu siri Pekali Korelasi Pearson telah dilakukan untuk menentukan hubungan antara faktor psikososial (mindset, sokongan sosial yang dirasakan, dan motivasi pencapaian) dengan pencapaian akademik dalam empat mata pelajaran teras – Bahasa Melayu, Bahasa Inggeris, Matematik dan Sains dan penglibatan (kognitif dan afektif). Regresi linear berbilang juga dijalankan untuk menyiasat faktor psikososial yang signifikan bagi pencapaian akademik. Walaupun kajian lepas mendapati hubungan kukuh antara faktor psikososial dan prestasi akademik, kajian semasa mendapati faktor psikososial yang dikaji tidak meramalkan pencapaian akademik atlet-pelajar secara signifikan. Motivasi merupakan satu-satunya faktor yang mempunyai hubungan yang signifikan dengan pencapaian akademik dalam keempat-empat mata pelajaran teras. Berdasarkan data, atlet pelajar secara amnya mempunyai pemikiran pertumbuhan dalam akademik dan sukan, sokongan sosial yang dirasakan rendah hingga sederhana, dan atlet pelajar lelaki mempunyai tahap amotivasi yang lebih tinggi. Motivasi intrinsik dan ekstrinsik mempunyai korelasi positif dengan mata pelajaran bahasa dan korelasi negatif dengan amotivasi. Motivasi intrinsik ke arah pencapaian merupakan peramal tambahan bagi mata pelajaran Sains. Akhir sekali, analisis pengantaraan menunjukkan lima subkategori motivasi - motivasi intrinsik untuk mengetahui, pencapaian, pengalaman, motivasi ekstrinsik yang dikenal pasti, dan motivasi - untuk

dimediasi secara signifikan oleh penglibatan afektif dengan hanya subjek bahasa, terutamanya Bahasa Inggeris. Kesimpulannya, dapatan utama kajian ini mencadangkan bahawa motivasi memainkan peranan penting dalam mempengaruhi pencapaian dalam empat mata pelajaran teras, terutamanya dalam mata pelajaran bahasa, memberi penerangan baru tentang isu-isu yang berkaitan dengan pencapaian akademik atlet-pelajar. Kajian ini telah menunjukkan implikasi yang jelas bahawa motivasi adalah satu-satunya faktor psikososial yang memainkan peranan penting dalam meningkatkan pencapaian akademik atlit-pelajar, justeru sekolah harus mengutamakan menangani kekurangan daya penggerak asas yang memberi tenaga dan mengarahkan tingkah laku pelajar ke arah pencapaian berbanding program pengayaan lain.



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Aini Marina Ma'rof, PhD

Senior Lecturer
Faculty of Educational Studies
Universiti Putra Malaysia
(Chairman)

Tengku Fadilah Tengku Kamalden, PhD

Associate Professor
Faculty of Educational Studies
Universiti Putra Malaysia
(Member)

ZALILAH MOHD SHARIFF, PhD

Professor and Dean
School of Graduate Studies
Universiti Putra Malaysia

Date: 8 June 2023

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TABLE OF CONTENTS

		Page
	ABSTRACT	i
	ABSTRAK	iii
	ACKNOWLEDGEMENTS	v
	APPROVAL	vi
	DECLARATION	viii
	LIST OF TABLES	xiii
	LIST OF FIGURES	xiv
	LIST OF ABBREVIATIONS	xv
	CHAPTER	
1	INTRODUCTION	1
	1.1 Introduction	1
	1.2 Research Background	2
	1.3 Problem Statement	5
	1.4 Research Objectives	6
	1.5 Research Questions	7
	1.6 Significance of The Study	11
	1.7 Research Limitation	12
	1.8 Definition of Terms	13
	1.8.1 Psychosocial Factors	13
	1.8.2 Academic Achievement	15
	1.8.3 Student-athletes	15
	1.8.4 Malaysian Sports School	16
	1.8.5 Engagement	16
	1.9 Summary	16
2	LITERATURE REVIEW	17
	2.1 Introduction	17
	2.2 Malaysian Sports School (SSM)	17
	2.3 Student-athletes	18
	2.4 Academic Achievement	19
	2.5 Psychosocial Factors	20
	2.5.1 Mindset	21
	2.5.2 Achievement Motivation	22
	2.5.3 Perceived Social Support	23
	2.6 Relationship Between Psychosocial Factors and Academic Achievement	25
	2.7 Engagement	27
	2.7.1 Engagement and Academic Achievement	27
	2.8 Theoretical Framework	28
	2.8.1 Dweck Mindset Theory	28
	2.8.2 McClelland Human Motivation Theory	29
	2.8.3 Social Support Theory	30
	2.8.4 Theory of Educational Productivity	30
	2.9 Conceptual Framework	31
	2.10 Summary	32

3	METHODOLOGY	33
3.1	Introduction	33
3.2	Research Design	33
3.3	Population, Sample of the Study, and the Sampling Technique	34
3.4	Research Location	34
3.5	Instrumentation	35
	3.5.1 Academic Achievement	36
	3.5.2 Dweck Mindset Instrument	36
	3.5.3 Academic Motivation Scale	36
	3.5.4 Multidimensional Scale of Perceived Social Support (MSPSS)	37
	3.5.5 Student Engagement in School Questionnaire	38
	3.6 Data Collection Procedure	38
	3.7 Data Analysis	39
	3.8 Reliability	46
	3.9 Pilot Test	46
	3.10 Normality Test	47
	3.11 Summary	48
4	FINDINGS AND DISCUSSION	49
4.1	Introduction	49
4.2	Descriptive Statistics	49
4.3	Pearson Product-Moment Correlation	64
4.4	Regression	71
4.5	Mediation Analysis	76
4.6	Summary of Results	83
5	CONCLUSION, IMPLICATION, AND RECOMMENDATIONS	84
5.1	Introduction	84
5.2	Conclusion	84
5.3	Implication	88
	5.3.1 Practical Implications	88
	5.3.2 Theoretical Implications	88
	5.3.3 Policy Implications	89
5.4	Limitations	89
5.5	Recommendations	90
	REFERENCES	91
	APPENDICES	102
	BIODATA OF STUDENT	115
	LIST OF PUBLICATIONS	116

LIST OF TABLES

Table		Page
1	Key for the Academic Motivation Scale – High School Version (AMS-HS)	37
2	Key for the Multidimensional Scale of Perceived Social Support	38
3	Statistical Analysis for Research Objective 1	39
4	Statistical Analysis for Research Objective 2	40
5	Statistical Analysis for Research Objective 3	41 - 42
6	Statistical Analysis for Research Objective 4	43
7	Statistical Analysis for Research Objective 5	44 - 45
8	Statistical Analysis for Research Objective 6	45
9	Internal Consistency of Items in Learning Mindset, Competitive Sports Mindset, Social Support, Academic Motivation, and Engagement	46
10	Instrument's Reliability Coefficient for Pilot and Actual Study	46
11	Skewness and Kurtosis Values of All Variables	47 - 48
12	Demographic Profile	50
13	Descriptive Statistics for Four Core Subjects Based on Gender	51
14	Descriptive Statistics for Four Core Subjects Based on Age	52
15	Descriptive Statistics for Four Core Subjects Based on Sports	52 - 53
16	Descriptive Statistics for Psychosocial Factors Based on Gender	55
17	Descriptive Statistics for Psychosocial Factors Based on Age	56 - 57
18	Descriptive Statistics for Psychosocial Factors Based on Sports	58 - 61

19	Descriptive Statistics for Engagement Based on Gender	62
20	Descriptive Statistics for Engagement Based on Age	62
21	Descriptive Statistics for Engagement Based on Sports	63
22	Pearson Correlation Between Psychosocial Factors and Engagements	65 - 66
23	Pearson Correlation Between Psychosocial Factors and Core Subjects	68 - 69
24	Pearson Correlation Between Engagements and Core Subjects	70
25	Multiple Linear Regression for Psychosocial Factors Predicts Bahasa Melayu Subject	72
26	Multiple Linear Regression for Psychosocial Factors Predicts English Subject	73
27	Multiple Linear Regression for Psychosocial Factors Predicts Mathematics Subject	74
28	Multiple Linear Regression for Psychosocial Factors Predicts Science Subject	75
29	Series of Mediation Analysis	78
30	Mediation Analysis for Affective Engagement as Mediator	80
31	Mediation Analysis for Cognitive Engagement as Mediator	81

LIST OF FIGURES

Figure		Page
1	A Theoretical Framework of the “Relationships between Psychosocial Factors and Academic Achievement among Student-athletes in a Malaysian Sports School”	31
2	A Conceptual Framework of the “Relationships between Psychosocial Factors and Academic Achievement among Student-athletes in a Malaysian Sports School”	32
3	Path Diagram and Equations for the Regression Model	76
4	Path Diagram and Equations for the Mediation Model	77
5	Path Diagram for Mediation Analysis	82

LIST OF ABBREVIATIONS

UPM	Universiti Putra Malaysia
KPM	Kementerian Pendidikan Malaysia
MOE	Ministry of Education
SSTMI	Sekolah Sukan Tunku Mahkota Ismail
SSM	Sekolah Sukan Malaysia
STEM	Science, Technology, Engineering, and Mathematics
IM	Intrinsic Motivation
EM	Extrinsic Motivation
MSPSS	Multidimensional Scale of Perceived Social Support
DMI	Dweck Mindset Instrument
AMS-HS	Academic Motivation Scale – High School Version
AMS	Academic Motivation Scale
SEQ	Student Engagement in School Questionnaire
PBS	Pentaksiran Berasaskan Sekolah

CHAPTER 1

INTRODUCTION

This chapter explains on problem statement of this research, the research background, objectives, and research questions based on the objectives, and the significance of the study. The limitation of the current research is also discussed as well as definitions of the terms.

1.1 Introduction

This chapter explains on problem statement of this research, the research background, objectives, and research questions based on the objectives, and the significance of the study. The limitation of the current research is also discussed as well as definitions of the terms.

This research focuses on psychosocial factors that predict academic achievement of student-athletes in a Malaysian sports school which includes student mindsets, perceived social support, achievement motivation, and engagement. Student-athletes face a unique set of challenges when pursuing both academic and athletic goals simultaneously (e.g., Potuto, 2007, Ting, 2009, Simons, 2000). Nonetheless, many people are firm believers that the positives of athletic participation outweigh the negatives. Studies have shown positive impact on learning and development (Bonfiglio, 2011), time management, and higher motivation to excel at different school endeavours (Byrd & Ross, 1991).

Student-athlete refers to the athletes who are studying in the Malaysian Sports School (*Sekolah Sukan Malaysia*, SSM) system from the age of eleven to nineteen. These students stay in boarding school and go for training and competition, while at the same time working on their academics. They are expected to be healthy, fit, united, disciplined, and productive to enhance the country's image internationally. To enter SSM, a candidate needs to at least represent the country in a particular sport or has the potential to represent the country, among other requirements. Student-athletes can start from as young as eleven years old, or in year five of primary school (Kementerian Pendidikan Malaysia (KPM), 2019).

To date, there are five SSMs in Malaysia; Bukit Jalil Sports School, Tunku Mahkota Ismail Sports School, Terengganu Malaysia Sports School, Pahang Malaysia Sports School, and Sabah Malaysia Sports School. The SSM is a schooling system that houses potential student-athletes so that both their academic and sports talents can be developed under the guidance of qualified and selected sports coaches and academic teachers. It is believed that with a

more structured and efficient supervision, student-athletes' improvement of academic and sports performance can be balanced and integrated. This is in line with one of the objectives for the SSM which is to improve the knowledge, skills, and experience of the athletes in sports without neglecting their academic achievement (Kementerian Pendidikan Malaysia (KPM), 2019).

However, the performance of the student-athletes in academics has been showing otherwise. Despite SSM alumni working as professionals, the number of those left behind is large (Firdaus Hashim, 2018). A news report in 2018 recounted that a large majority of the SSM alumni are now working odd jobs such as fishermen, factory operator, or lorry drivers. Another reported an alum claiming being in the SSM system as a regrettable life decision (Zulfaizan Mansor, 2018). Former secretary of *Majlis Olimpik Malaysia*, Datuk Sieh Kok Chi, also called for an improvement in the SSM system. According to Datuk Sieh Kok Chi, despite the success that can be seen on the surface of sport school system producing national athletes, government officials, doctors, coaches, and other high-profile jobs, changes are still necessary to make sure no students are left behind (Firdaus Hashim, 2018). As it currently stands, academic underperformance among student athletes has long been a universal issue and well-documented in research over the years especially among college athletes (e.g., Apaak, 2015, Berber, 2008, Gimit, 2014, Santos, 2020). Academically, athletes generally do three-tenths of a grade point worse than regular students.

In Malaysia, research on student-athletes especially in school is scarce given the inaccessible and protective nature of these schools. Available research focuses more on student-athletes in universities. Research shows that even at the undergraduate level, student-athletes face issues of academic underperformance. Zulfadli (2018) found that almost 40 percent of student-athletes at the undergraduate level experience some problems in improving their academic achievement compared to undergraduate students who do not engage in sports activities actively (Zulfadli Rozali, 2018). This study, therefore, is among the first of its kind to provide insight into the plausible role of psychological and social constructs in predicting student-athletes' underperformance at the school level.

1.2 Research Background

Student-athletes who are currently studying in a Malaysian Sports School (MSS) are the central focus of this study. The MSS system houses young athletes in the nation, with five schools all over the country. Students enrolled in the school are ranging from standards five and six in primary school, Forms 1 to 5 in the secondary school, and up to semester four for the Pre-University students. Student-athletes who performed well in their *Sijil Pelajaran Malaysia* (SPM), a Malaysian education certificate awarded to those who completed high school, will be offered to continue to the pre-university level. From here, they are closer to continuing their education at the tertiary level. However, the news reports on alumni of SSM are now working odd jobs, not getting into

universities after finishing school, and a call to improve the system of SSM show that there is an issue pertaining to the student-athletes' academic performance. Past year results also show that most student-athletes score barely passing marks in their exams. This begs the question of what contributes to the academic performance of the student-athletes?

There is a gap in knowledge when it comes to student-athletes specifically on academic achievement for student-athletes in schools as most research in Malaysia focus more on student-athletes who are in the universities. Research in 2018 shows that due to lack of supports in increasing their academic achievement, almost 40% of student-athletes experience problems when it comes to academic performance, at the undergraduate level. This leads to problems with maintaining their studies, scholarships, or participation in training and competition due to their underperformance in academics (Zulfadli Rozali, 2018). Other than that, other factors such as commitment to and spending too much time on sports, as well as the 'anti-intellectual' subculture among the male student-athletes also resulted in the lower academic achievement among student athletes (Adler & Adler, 1985; Pascarella, 1991; Aminuddin Yusof, 2013). Aminuddin found that factors such as learning environment and support systems are significantly related to the academic performance of student-athletes who are in Malaysia's public universities (Aminuddin Yusof, 2013). The academic performance of student-athletes is not exclusively a Malaysian problem as this can also be seen globally. Briana M. Scott (2008) found that student-athletes perform academically better during their off seasons as being outside season of competition means that they could focus more on their academic lives and have better academic performance (Brianna M. Scott, 2008). The underperformance in academic were stronger in sports that were known to be time consuming such as rugby and among those who entered college less prepared academically.

Teachers perceive that students need to be responsible for their education as the system is not at fault, as argued by the principal of one of the sports schools, Suhaimi Sun, in an article published in *Berita Harian*, (19th October 2018). This gives the responsibility of balancing their academic performance and sports on the student-athletes and not only on the school. An alumna of the SSM, Ann Najwa Azizan, also defended the school by saying that she has graduated from one of the schools and now is pursuing her bachelor's degree despite her hectic schedule as a national netball player (*Berita Harian*, 19th October 2018). Showing that, despite her hectic schedule as a national netball player, she still manages to focus on her academics. Finally, the Vice-Chancellor of UiTM, Prof Datuk Dr Abdullah Mohamad Said, expressed his opinion that sports school needs to use Play and Learn concept to help their students (*Berita Harian*, 20th October 2018). Thus, there is a blame game going on as to why student-athletes are underperforming academically in Malaysia since there are a lot of efforts have been put from educators and policy makers to help improve the academic performance of student-athletes, as well as fundings by the taxpayers to these SSMs. Unfortunately, student-athletes still underperform academically. Therefore, it is deemed relevant to

investigate the factors of the academic performance, especially the pertinent psychosocial factors – mindset (learning mindset and competitive sports mindset), achievement motivation, and perceived social support – to empirically ascertain and explain the persisting issue of student-athletes academic achievement. Psychosocial factors manifest in the ability of students to acquire knowledge, gain skills, perceive educational information, form attitude towards others and form mutual understanding with people around (Kostromina, 2016) and as such, and understanding on how these constructs play a role in determining student academic outcomes could pave better ways for develop and deliver curriculum that are better suited for student-athletes.

In this research, psychosocial factors such as mindset, achievement motivation, perceived social support and engagement will be looked at to see whether they predict student-athletes' academic achievement. Mindset, a term introduced by a Stanford researcher, Carol Dweck, mentions that typically, a human can either have a growth mindset, or a fixed mindset (Dweck, 2015). Having a growth mindset means that an individual believes that he or she can improve themselves through hard work and dedication, and not on talent alone. It was found a student's belief on growing intelligence can affect their academic achievement. A stronger belief in the growth mindset is positively linked with a better learning outcome (Fandy Rahardi, 2021). The theory of mindset suggests that by having a growth mindset, an individual can improve themselves through hard work. Likewise, having a fixed mindset means that an individual believe that their talent is fixed and cannot be improved. Therefore, it is important to see whether these student-athletes have growth or fixed mindsets, and do these mindsets differ for academic and sports?

Student-athletes must balance a dual life between academics and sports. The interest in sports could be the motivation for their sports performance and henceforth, why student-athletes perform in sports. However, as mentioned above, student-athletes underperformed when it comes to academic achievement. There is a positive and significant correlation between academic motivation and academic achievement. Individual who believes that the tasks are worthy and valuable have more academic achievement. Thus, motivational factors have a crucial role in academic achievement, and further research endeavours should pay more attention to the components of motivation (Kourosh Amrai, 2011). Therefore, it is relevant for achievement motivation to be studied in understanding the reason for the academic achievement of the student-athletes.

The third factor to be studied in this research is the perceived social support. Perceived social support does have a positive relationship with academic achievement (Jie Li et al. 2017). In research conducted on 262 university students in China, students with high social support possess a high level of self-esteem and, in turn, improves their academic achievement. Bahar (2010), also found that perceived familial support it a meaningful predictor for academic success (Bahar, 2010). More research has also found that parents play an important role in shaping the supporting student-athletes in their dual

career as an athlete and a student (Antonio Tessitore, 2021). Henceforward, perceived social support is also relevant to be studied in researching the factor for student-athletes academic performance.

Other than that, based on research conducted in twelve countries, teachers and parents' support play essential roles in students' engagement and academic performance in that students' engagement played a mediating role on academic performance (Shui-fong Lam e.a., 2011). In this research, engagement will mediate the relationship between the psychosocial factors with academic achievement.

This research will look at the relationship between psychosocial factors – mindset, achievement motivation, and perceived social support – and the academic achievement of student-athletes, mediated by engagements: cognitive and affective engagements. A questionnaire adapted from multiple established instruments were distributed to the students to gather the data. The respondents were selected using stratified sampling from the population of 600 students. The data were analysed using a series of reliability test, normality test, Pearson correlation, simple linear regression, and mediation analysis, and will be discussed further in chapter four.

1.3 Problem Statement

Despite excelling in competitive sports, student-athletes have consistently underperformed academically and are not able to further their study or have a stable career once they leave school, despite claims that sports may help with academic performance (Trudeau and Shephard, 2008). Several research results from the early 2000s suggest a positive impact of regular physical activity on learning and memory at all ages. It is also generally accepted that cognitive functions and brain health in older adults is associated with such activity, and thus should be promoted since a young age. There is also growing evidence that the increase of brain reserve is attributed to physical activity (Trudeau & Shephard, 2008). These imply that students entering the sports school system as student-athletes are not only physically fit and healthy, but they are also more cognitively advantaged than less physically active peers. However, the problem can be seen when students graduating from the system are failing in many levels. The inability to pursue tertiary education, which in turn leads to far from ideal work and life quality, have all been attributed to the poor academic performance while still in school. Exam results further support this, demonstrating the consistently poor performance of these student-athletes across the board. Furthermore, student-athletes' quota to enter public universities is limited to 1000 intake yearly, making it even more challenging for these students to compete with other students.

On the other hand, evidence-based school programs that could effectively improve academic outcomes of these students are still scarce as the body of

literature that empirically illustrates their struggles are limited to begin with. To date, studies on student-athletes and their academic achievement especially in Malaysia at the level of secondary education is limited due to the protective closed-nature of SSMs. One available study demonstrated links between motivation and attitude in a sports school in East Malaysia towards learning English (Nursyaheedah Muhammad Isa, 2018) thus a comprehensive study looking into predictors of overall academic achievement is yet to be established within the country. Past research in other countries and on different student contexts have well established the links between both psychological and social factors in predicting academic outcomes. A study conducted in 2020 found that by there is a significant relationship between having a growth mindset and the outcome of the mathematic subjects for students (Bostwick, 2020). Other than that, having growth mindset has also been found to link with having a positive perception towards learning language (Lou, 2020). Another study in 2018 also showed that by having a greater achievement motivation, it can lead to academic success (Ishihara, 2018). Therefore, it is deemed relevant to investigate pertinent psychosocial factors – learning mindset, competitive sports mindset, achievement motivation, perceived social support – to empirically ascertain and explain the persisting issue of student-athletes' academic underachievement in the country and how these plausible relationships could be mediated by student cognitive and affective engagement levels. An investigation into how gender and age could potentially play a role in explaining the academic outcomes would also be worthwhile as a wholesome understanding on how these constructs play out may better inform policies and curriculum to be custom-tailored to the unique needs of student-athletes. As such opportunities are hard to come by, this preliminary study will focus on illustrating one of the five SSMs available in Malaysia to lay the groundwork for future, more comprehensive psychological studies looking into addressing academic achievement issues of Malaysian student-athletes.

1.4 Research Objectives

This research seeks to determine psychosocial factors that could significantly predict academic achievement among student-athletes in a Malaysian sports school. Each factor will be tested to determine their relationships with student academic achievement. The psychosocial factors will also be tested to specific core subjects, i.e., Bahasa Melayu, English, Mathematics and Science to provide an empirical illustration on individual subjects.

Specifically, this study seeks to:

1. Determine the levels of student-athletes' a) learning mindset, b) competitive sports mindset, c) achievement motivation, d) perceived social support, e) cognitive engagement, f) affective engagement, and g) academic achievements in four core subjects: Bahasa Melayu, English, Mathematics and Science.

2. Determine the relationship between the psychosocial factors: a) learning mindset, b) competitive sports mindset, c) achievement motivation, and d) perceived social support, and engagement levels that is, a) cognitive engagement and b) affective engagement (mediator variable).
3. Determine the relationships between a) learning mindset, b) competitive sports mindset, c) achievement motivation, and d) perceived social support, with student athlete's academic achievement in four core subjects: Bahasa Melayu, English, Mathematics and Science.
4. Determine the relationship between engagement levels – a) cognitive engagement and b) affective engagement, with the student-athletes' academic achievement in the four core subjects: Bahasa Melayu, English, Mathematics, and Science.
5. Investigate significant psychosocial factors of student-athletes' academic achievement in four core subjects: Bahasa Melayu, English, Mathematics and Science.
6. Investigate the mediation of engagement – a) cognitive engagements and b) affective engagements, on the relationship between the psychosocial factors: a) learning mindset, b) competitive sports mindset, c) achievement motivation and d) perceived social support, and the student-athletes' academic achievement.

1.5 Research Questions

The research questions and corresponding hypotheses are listed according to the objectives. The Research Questions are:

Objective 1:

RQ1: What are the levels the student-athletes' academic achievements in four core subjects: Bahasa Melayu, English, Mathematics, and Science?

RQ2: What are the levels of each of the psychosocial factors in a Malaysian Sports School?

RQ3: What are the levels of the student-athletes' engagement – cognitive engagement and affective engagement?

Objective 2:

RQ4: Are there significant relationships between each of the psychosocial factors and the engagements?

H1a: There is a significant relationship between student-athletes' learning mindset and cognitive engagement.

H1b: There is a significant relationship between student-athletes' learning mindset and affective engagement.

H1c: There is a significant relationship between student-athletes' competitive sports mindset and cognitive engagement.

H1d: There is a significant relationship between student-athletes' competitive sports mindset and affective engagement.

H1e: There is a significant relationship between achievement motivation and cognitive engagement.

H1f: There is a significant relationship between achievement motivation and affective engagement.

H1g: There is a significant relationship between perceived social support and cognitive mindset.

H1h: There is a significant relationship between perceived social support and affective engagement.

Objective 3:

RQ5: Are there relationships between the psychosocial factors and the level of student athlete's academic outcomes in four core subjects: Bahasa Melayu, English, Mathematics and Science?

H2a: There is a significant relationship between student-athletes' learning mindset and the level of student athlete's academic outcomes in Bahasa Melayu.

H2b: There is a significant relationship between student-athletes' learning mindset and the level of student athlete's academic outcomes in English.

H2c: There is a significant relationship between student-athletes' learning mindset and the level of student athlete's academic outcomes in Mathematics.

H2d: There is a significant relationship between student-athletes' learning mindset and the level of student athlete's academic outcomes in Science.

H2e: There is a significant relationship between student-athletes' competitive sports mindset and the level of student athlete's academic outcomes in Bahasa Melayu.

H2f: There is a significant relationship between student-athletes' competitive

sports mindset and the level of student athlete's academic outcomes in English.

H2g: There is a significant relationship between student-athletes' competitive sports mindset and the level of student athlete's academic outcomes in Mathematics.

H2h: There is a significant relationship between student-athletes' competitive sports mindset and the level of student athlete's academic outcomes in Science.

H2i: There is a significant relationship between student-athletes' achievement motivation and the level of student athlete's academic outcomes in Bahasa Melayu

H2j: There is a significant relationship between student-athletes' achievement motivation and the level of student athlete's academic outcomes in English.

H2k: There is a significant relationship between student-athletes' achievement motivation and the level of student athlete's academic outcomes in Mathematics.

H2l: There is a significant relationship between student-athletes' achievement motivation and the level of student athlete's academic outcomes in Science.

H2m: There is a significant relationship between student-athletes' perceived social support and the level of student athlete's academic outcomes in Bahasa Melayu.

H2n: There is a significant relationship between student-athletes' perceived social support and the level of student athlete's academic outcomes in English.

H2o: There is a significant relationship between student-athletes' perceived social support and the level of student athlete's academic outcomes in Mathematics.

H2p: There is a significant relationship between student-athletes' perceived social support and the level of student athlete's academic outcomes in Science.

Objective 4:

RQ6: Are there relationships between the engagements and the level of student athlete's academic outcomes in four core subjects: Bahasa Melayu, English, Mathematics and Science?

H3a: There is a significant relationship between cognitive engagement and the level of student athlete's academic outcomes in Bahasa Melayu

H3b: There is a significant relationship between cognitive engagement and the level of student athlete's academic outcomes in English.

H3c: There is a significant relationship between cognitive engagement and the level of student athlete's academic outcomes in Mathematics.

H3d: There is a significant relationship between cognitive engagement and the level of student athlete's academic outcomes in Science.

H3e: There is a significant relationship between affective engagement and the level of student athlete's academic outcomes in Bahasa Melayu

H3f: There is a significant relationship between affective engagement and the level of student athlete's academic outcomes in English.

H3g: There is a significant relationship between affective engagement and the level of student athlete's academic outcomes in Mathematics.

H3h: There is a significant relationship between affective engagement and the level of student athlete's academic outcomes in Science.

Objective 5:

RQ7: After controlling for other variables, do differing levels of each factor significantly predict the level of student athlete's academic achievements in four core subjects: Bahasa Melayu, English, Mathematics and Science?

H4a: The higher the level of learning mindset, the higher the level of academic achievements in Bahasa Melayu

H4b: The higher the level of learning mindset, the higher the level of academic achievements in English

H4c: The higher the level of learning mindset, the higher the level of academic achievements in Mathematics

H4d: The higher the level of learning mindset, the higher the level of academic achievements in Science

H4e: The higher the level of competitive sports mindset, the higher the level of academic achievements in Bahasa Melayu

H4f: The higher the level of competitive sports mindset, the higher the level of academic achievements in English

H4g: The higher the level of competitive sports mindset, the higher the level of academic achievements in Mathematics

H4h: The higher the level of competitive sports mindset, the higher the level of academic achievements in Science

H4i: The higher the level of achievement motivation, the higher the level of academic achievements in Bahasa Melayu

H4j: The higher the level of achievement motivation, the higher the level of academic achievements in English

H4k: The higher the level of achievement motivation, the higher the level of academic achievements in Mathematics

H4l: The higher the level of achievement motivation, the higher the level of academic achievements in Science

H4m: The higher the level of perceived social support, the higher the level of academic achievements in Bahasa Melayu

H4n: The higher the level of perceived social support, the higher the level of academic achievements in English

H4o: The higher the level of perceived social support, the higher the level of academic achievements in Mathematics

H4p: The higher the level of perceived social support, the higher the level of academic achievements in Science

Objective 6:

RQ8: Do engagements – cognitive and affective engagements – mediate the relationship between the psychosocial factors with student-athletes' academic achievements in the four core subjects: Bahasa Melayu, English, Mathematics, and Science?

H5: Engagements do mediate the relationship between the psychosocial factors and the student-athletes' academic achievement in the four core subjects: Bahasa Melayu, English, Mathematics, and Science

1.6 Significance of The Study

The result of this study will show how the psychosocial factors affect the student-athletes academic achievement and therefore will benefit student-athletes, teachers and coaches in the sports school system, parents, policymakers, and society. Firstly, the result of the study will help the policy makers, namely the Ministry of Education, Malaysia, to better understand the student-athletes academic performance and produce policy that will benefit the student-athletes academically. On a larger scale, the country does want to produce thinking athletes (Nasa, 2018). The results will also show how the support received by the student-athletes can help to improve their academic achievement.

Secondly, the findings in this study will help future researchers with the theories used in this research. The theories are used to support the findings of the study and to fill in the gap in knowledge for each respective theory. Next, the findings of this research will help the student-athletes academically. The study results will show which of their pertinent psychosocial factors – mindset (learning mindset and competitive sports mindset), achievement motivation, and perceived social support – will predict their academic outcome. Once known, they can understand themselves and improve academically. This research is also significant for the teachers as, although the relationship is weak, teachers do, in a way, shape the mindset of the students (Hennessey, 2017).

Henceforth, teachers will see how much their mindset affects the students regarding their mindset and, ultimately, their academic performance. Furthermore, this study will also look at whether their mindset predicts

academic underperformance. This study focuses on young athletes representing the country in various sports. They are the nation's gems, and the research results will help shape them to excel on the tracks and academically.

1.7 Research Limitation

This study will be limited to student-athletes of one of the Malaysian Sports School, specifically on the psychosocial factors that predict their academic achievement. Student-athletes is an inclusion criterion in this study because past studies show that continuous physical activities, such as playing sports, help improve brain capacity and lead to better academic performances (Trudeau & Shephard, 2008) but research has also demonstrated otherwise in that student-athletes have been consistently underperforming academically. While available empirical data is still scarce in Malaysia, there have been available reports demonstrating the case for academic underperformance based on their exam results and working opportunities post high school. Available research on student-athletes, especially in the West, have demonstrated bio-ecological links to their academic success. Thus, the current study will specifically focus on psychosocial factors that could predict Malaysian student-athlete's academic achievement to better understand the internal processes that make up school success. These student-athletes are chosen because, unlike regular students from the standard school setting, must be involved in sports throughout their school life.

The limitation to only one school instead of covering all five sports school is not decided out of convenience but because sports schools are more protective in nature and would not allow for just any researcher to access freely to conduct their studies. The permission to conduct the present study came by after numerous discussions and having passed through several gatekeepers to obtain clearance.

This study's psychosocial factors are limited to mindset, divided into two, Learning Mindset and Competitive Sports Mindset, Achievement Motivation, and Perceived Social Support. Mindset is defined in two ways which are growth and fixed mindset. However, there are other perspectives of mindset such as the social mindset, fear, or a confident mindset. Each is defined by the way a researcher looks at it and their definition of the mindset. This study will look at mindset in two different ways: the learning mindset and the competitive sports mindset. Learning mindset focuses on the mindset these student-athletes have towards learning, whether they have growth or fixed mindset towards learning.

In comparison, Competitive Sports Mindset will look at their mindset towards competitive sports, such as their talent in the sport. This study will examine whether the two mindsets differ for the student-athletes and whether they predict academic performance. The rationale behind this is because mindsets can be interchangeable (Dweck, 2009).

Another aspect of mindset, which is motivation, will be focusing on achievement motivation. Sports are related to achievement as sports is about reaching the set goal, which is the achievement. This study will focus on these student-athletes' achievement motivation to see how driven they are in achieving their goals, both academically and in sports. Perceived social support will also be looked at to see how much the social support received by these student-athletes predict their academic underachievement. Perceived Social Support will be limited to the student athlete's family, friends, and significant others. It appears that research conducted by Zimet (Gregory D. Zimet, 1990) shows a substantial relationship between the three sources. Additionally, the present study will also be studying the sense of belonging and academic self-efficacy. Sense of belonging will be limited to their sense of belonging to the school. The reason is to see if their feelings of belonging to a sports school will predict their academic outcome. Academic self-efficacy is to see whether these student-athletes, along with their mindset, can perform the academic task successfully on their own.

Finally, this study will also look at the student-athletes' academic outcomes based on their past year-end of the year examination. This study will limit this to four subjects: Bahasa Melayu, English Language, Maths, and Science. These four subjects are the core subjects in the Malaysian examination system and the four basic skills of 4M Reading, Writing, Calculating, and Reasoning (*Membaca, Menulis, Mengira, dan Menaakul*).

1.8 Definition of Terms

1.8.1 Psychosocial Factors

Psychosocial looks at how the collective influence that psychological aspects and the surrounding social environment have on an individual in the context of their physical and mental wellness and their ability to function accordingly. It is a theory that was introduced in the 1950s by Erik Erikson and called the Erikson's Stages of Psychosocial Development. It was developed upon Freud's theory of psychosexual development and draw parallels in childhood stages and expanded it to include the influence of social dynamics as well as the extension of psychosocial development into adulthood (Gabriel A. Orenstein, 2022). Erik Erikson believed that humans are shaped according to their surrounding and daily activities which involve the family, friends, and society (Batra, 2013).

This study will look at four factors under the Psychosocial umbrella: learning mindset, competitive sports mindset, achievement motivation, perceived social support, and the teachers' mindset towards the students. Each of these factors will be measured and studied to see if they have significant relationships with academic achievement. Explanation for each factor will be explained below.

a. Mindset

The term 'mindset' defined by Carol Dweck, a professor from Stanford University. According to Dweck (2015), mindset can be seen as how we perceive our abilities, and it played a crucial role in students' motivation and thus, leads to their achievement. In other words, mindsets are how people look at the nature of human traits, such as intelligence or personality. Those that believe intelligence and talent are unchangeable traits are with fixed mindset, and vice versa, those that believe they are malleable qualities that can be increased and developed are those with a growth mindset (Nancy Berenice Ortiz Alvarado, 2019)

This study will look at student-athletes' mindsets towards academic learning and competitive sports, and if the mindset is different between the two perspectives. Learning mindset is focusing on do they think they can improve themselves academically, and competitive sports will look at how they see their talent in sports. Using the Dweck Mindset Instrument (DMI), the student-athletes' mindsets in both learning and competitive sports will be measured to see if they are having growth or fixed mindset for both aspects or will they be different for each one.

b. Achievement Motivation

Elliot & McGregor (1999) described achievement motivation to influence achievement-relevant outcomes indirectly. Achievement motives comprise the want for achievement and the dread of failure. Thus, achievement motivation can be seen as direct predictors of achievement-relevant circumstances (Rabideau, 2005). The theory of achievement motivation also shows that individual needs need to be met to improve performance. Based on the different needs to be achieved by individuals, humans are motivated on the basis of achievement (Any Werdhiastitutie, 2020). Therefore, it can be said that one of the keys to successful academic performance is motivation, and there is a strong correlation between motivation academic achievement (Tahereh Partovi, 2019)

This study will study whether achievement motivation has a significant relationship with academic underachievement and if it predicts the students' academic outcome. In this study, achievement motivation is looked at as the drive that pushes the students towards achievement. To measure the student-athletes academic achievement, the Academic Motivation Scale will be used.

c. Perceived Social Support

According to Zimet, Dahlem, Zimet and Farley (1998), perceived social support

are the social supports offered by family members, friends, and “significant other(s)” or (teachers, classmates) (Carmern Adler-Constantinescu, 2013). Social support can be defined as the support which is received from family, friends, neighbours, and institutions and can enhance the psychological aspects, and help in the aspects of affective, physical, cognitive contribution. Not only that an individual's interactions within the family, social support (peer environment and other people) can motivate an individual positively, it can also create negative effects, Therefore, it can be said that psychosocial can influence an individual's development (Gülaçti, 2010).

In this study, perceived social support will be looked at from parental social support, teachers social support, and peer social support. It is to be studied to see if it will significantly predict the academic underachievement of the student-athletes. In this study, the Multidimensional Scale of Perceived Social Support will be used to measure the level of the student-athletes' perceived social support.

1.8.2 Academic Achievement

According to Shapiro Bruce (K.MD, 2011), academic underachievement refers to poor classroom performance. In other words, it can be defined as school performance, measured by grades, that falls below what is predicted by standardized tests of cognitive ability (Hoffman, 2018). Other than that, academic achievement can broadly be referred to skills such as the communicative (oral, reading, writing), mathematical, science, social science, and thinking skills; and because these are difficult to assess, most researchers have narrowed the definition to a largely limited outcomes on standardized achievement tests (Kathryn Lindholm-Leary, 2006).

In this study, academic achievement will be considered based on the student-athletes' past year-end of the year examination results. This study will specifically look at four subjects: Bahasa Melayu, English Language, Maths, and Science. To measure the level of academic achievements of the student athletes in the four core subjects, the student-athletes past year results will be used and data will be collected from the *Sistem Analisis Peperiksaan Sekolah* (SAPS).

1.8.3 Student-athletes

Based on the 15 USCS § 7801 (9) [Title 15. Commerce and Trade; Chapter 104. Sports Agent Responsibility and Trust], the phrase “student-athlete” implies “an individual who participates in, is fit to participate in, or maybe qualified in the future to participate in, any intercollegiate sport. (US Legal, n.d.).

In this study, student-athletes will refer to young athletes under the age of 20, representing Malaysia in various sports, studying and training in the Malaysian Sports School system. Specifically, these student-athletes will be taken from one of the Malaysian sports school systems.

1.8.4 Malaysian Sports School

According to the Ministry of Education webpage, by definition, a Malaysian sports school is an institution where potential student-athletes are grouped in a school system so that, under the guidance of dedicated coaches and selected academic teachers, their sporting and academic talent can be developed and enhanced. (Ministry of Education, Malaysia, 2019)

In this study, Malaysian Sports School will refer to one of the five Malaysian Sports School in the country, as well as the system of the school.

1.8.5 Engagement

Csikszentmihalyi (1990) said that engagement is a growth-producing activity when an individual pays attention in an active response to their environment. Student engagement has been numerously linked by previous studies with improved academic performances and has repeatedly shown to be a robust predictor of school achievement and behaviour (Appleton, Christenson, & Furlong, 2008; Shernoff & Schmidt, 2008). (Shelly R. Hart, 2011)

In this study, engagement will be divided into two – cognitive and affective. It will be studied to see if it mediates any of the factors to predict the academic outcome.

1.9 Summary

Student-athletes have to participate in both academics and competitive sports and despite previous studies, they have underperformed academically. This current research looks at the psychosocial factors that could predict their academic achievement.

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